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COMMUNITY RESEARCH WORKING PAPER:
GRANTS, NEW MEXICO
BLM SOCIAL EFFECTS PROJECT

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1. INTRODUCTION

1. INTRODUCTION

1.1 Background

This report on Grants, New Mexico is one in a series of ten community research working papers documenting the field research conducted as part of the BLM Social Effects Project. The project was designed to improve social assessment methods by conducting the necessary literature and primary research to develop and support a Guide to Social Assessment.

The project had five major components. The first component, a review of the literature, provided the basis for developing an analytic framework for the assessment of social effects of energy development. The literature review was organized into the following subject areas:

- 1) Social organization
- 2) Political organization
- 3) Economic organization
- 4) Population and demography
- 5) Family
- 6) Specific groups, including Native Americans, women, and youth
- 7) Attitudes, values, and quality of life
- 8) Mitigation

The second component, the Social Effects Conference, was held in Denver in October 1980. The conference brought representatives of state governments, the BLM, and the academic community together to determine what the focus of the project would be. A principal objective was to integrate the perspectives of decision-makers and sociologists and develop a common set of assessment priorities.

The third component of the project, the research component, was based on the results of the literature analysis and the Social Effects Conference. The priorities identified for study centered on changes in community social organization and indicators of community well-being.

The fourth component of the project was the preparation of a social assessment guide. The Guide to Social Assessment is the major product of the project; to ensure its applicability, it was given a trial application under actual field conditions.

The fifth component of the project was a public involvement effort to keep interest groups informed about the project. Meetings with BLM and state officials were held to brief them on the project and to solicit comments. A periodic bulletin was distributed to inform others about the project. In addition, training workshops for BLM social scientists were held to instruct them in the use of the Guide.

1.2 Purposes of the Research Effort

The research component was included in the project to achieve four major objectives:

- 1) To identify social effects, including those suggested by the literature review and conference, and to verify them by field investigation
- 2) To test the analytic framework which was developed as a basis for the Guide
- 3) To further elucidate the mechanisms that cause social effects to occur in energy impact areas
- 4) To test field procedures and the conceptual approach at a level of effort comparable to that available to BLM staff conducting social assessments

Although there were differences in emphasis among conference participants, seven priority assessment topics were identified as being of greatest concern:

- 1) What is the distribution of socioeconomic effects among groups in impacted areas?
- 2) What determines the capacity of communities to manage growth?
- 3) What are the attitudes of residents, both old and new, toward development?
- 4) What are the effects on community facilities and services?
- 5) What are the major lifestyle and social organization changes resulting from energy development?

- 6) What are effective mitigation strategies?
- 7) How can cumulative social effects be measured and described?

Conference participants also emphasized that BLM needed an assessment method that could handle site-specific variations and that would be compatible with the multiphase BLM assessment and planning processes.

The research phase was to last nine months, and financial resources were limited. Clearly, the research effort could not do justice to all seven of the research priorities summarized above, and it was not BLM's intention that the research effort provide definitive answers to all social impact questions. The goal was to devise an analytic framework that would produce effective social assessments given the BLM process and, at the same time, to learn as much about the above areas of concern as the limited resources permitted. Thus, the project team was given the seven research priorities and was asked to create an appropriate analytic framework and method for implementing the research effort.

1.3 The Analytic Framework

Several general criteria guided the development of the analytic framework. The first criterion was to be sure that the subject of the research was clearly social in nature. The BLM believed that enough was known about how to do economic and demographic assessments as well as facilities and services assessments, but that social assessments needed improvement.

Second, if possible, BLM wanted the assessment process to discriminate between social effects that could be mitigated and those that probably could not. Before BLM or state and local entities can require mitigation, the effects must be known and feasible mitigation methods must be understood.

Third, the framework needed to be implementable within a variety of resource constraints. Each assessment effort within BLM has different

constraints of time, personnel, and funding. Thus, the framework needed to be workable under a variety of conditions.

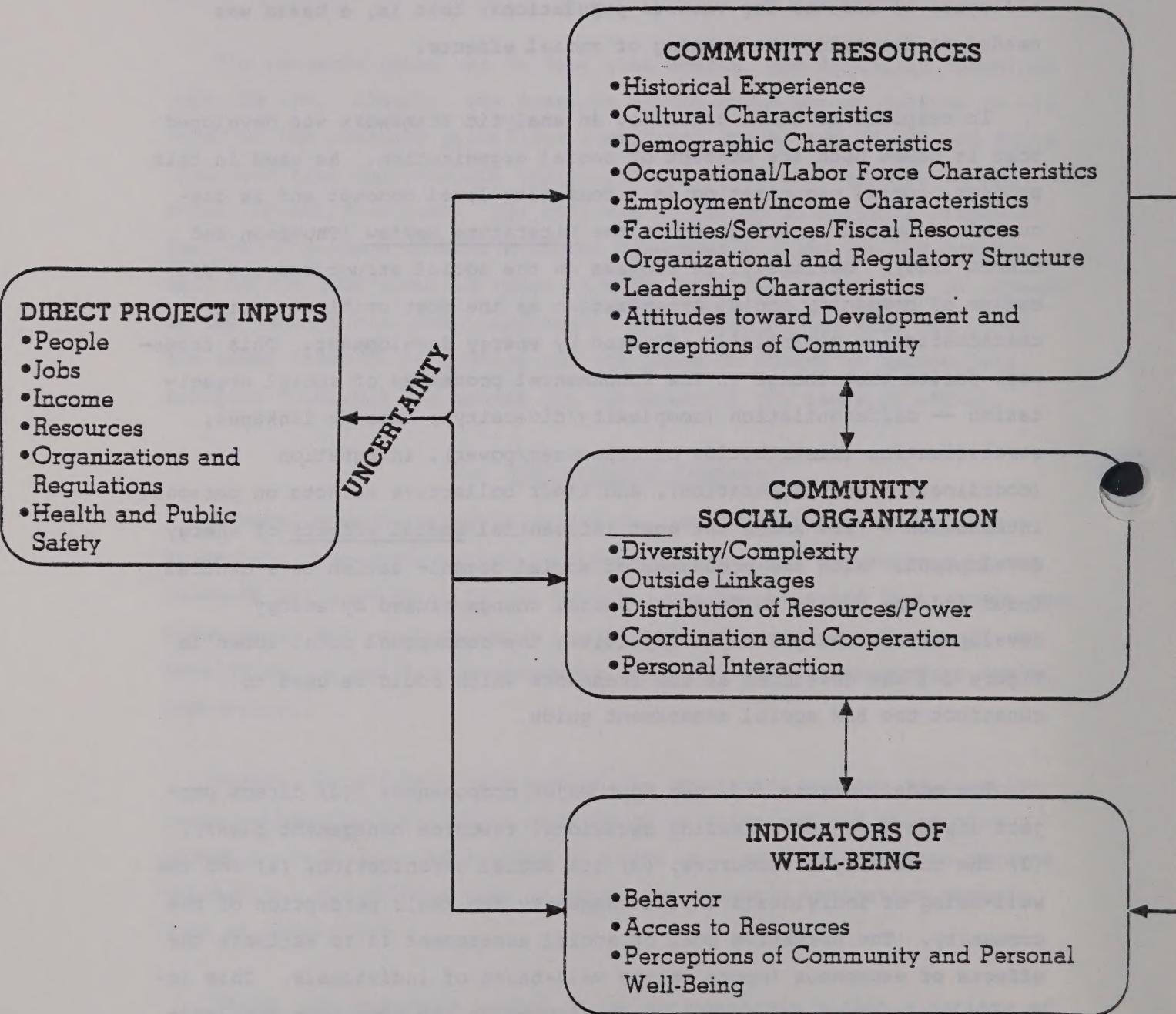
A final criterion was that the framework should not only enable the forecasting of effects, but also should allow for determining the significance of effects for various populations; that is, a basis was needed to determine the meaning of social effects.

In response to these criteria, an analytic framework was developed that is based upon the concept of social organization. As used in this project, social organization is a community level concept and is discussed in detail by Wilkinson in the Literature Review (Thompson and Branch 1981). Basically, it focuses on the social structures and processes of community social organization as the most critical social characteristics potentially affected by energy development. This framework posits that change in the fundamental processes of social organization -- differentiation (complexity/diversity), outside linkages, stratification (distribution of resources/power), integration (coordination and cooperation), and their collective effects on personal interaction -- are among the most influential social effects of energy development. With the processes of social organization as a central focus and the desire to forecast social change caused by energy development as the principal objective, the conceptual model shown in Figure 1-1 was developed as the framework which could be used to construct the BLM social assessment guide.

The model, Figure 1-1, has four major components: (1) direct project inputs (projects, leasing decisions, resource management plans), (2) the community's resources, (3) its social organization, (4) and the well-being of individuals in the community and their perception of the community. The normative goal of social assessment is to estimate the effects of exogenous inputs on the well-being of individuals. This involves analysis of the effect of the inputs on the resources available in a community, on the social organization of the community, and finally, on the well-being of individuals in the community. It thus

FIGURE 1-1

Social Organization Model



specifies the community as an important unit of analysis for the assessment of large-scale projects.

Based on the literature review and the BLM conference results, these four components were thought to incorporate the significant dimensions of social impact assessment. When combined with a theoretical concept of social well-being that addresses the role of the community in serving the social needs of its members, it provides a basis for examining not only the effect of the project upon social organization but also for examining the relationship between social organization and individual well-being.

A principal advantage of the model (Figure 1-1) is that it clarifies the relationship between the social assessment component and the other components of the total assessment process (that is, economic/ demographic, facilities and services, and natural environment). It also makes more explicit the mechanisms by which exogenous inputs modify community resources and social organization, and ultimately, individual well-being -- directly by the primary effect of the inputs, and indirectly by changing interaction patterns among the components.

1.4 Research Design

The research effort consisted of conducting ten comparative community case studies. These were imperative since little secondary data exist for the social variables specified in the model. Further, since the social organization variables have received little attention in western social impact research, there was little known about them. Consequently, the case study effort was divided into two phases. The first phase was exploratory in nature and included four communities. More time and effort was allocated to these communities to determine the utility of the model and to identify major relationships and variables. In the second phase, six more communities were included, but the effort was more focused, and fewer resources were expended per community. Grants was included in the first-phase effort.

As stated above, the analytic framework devised to guide the research, Figure 1-1, dictates that the "community" be included as a unit when assessing the social effects of large-scale projects. This approach suggests that the social meaning of development for members of a social unit, the community, is determined largely by the interaction of exogenous inputs with the community's resources and its social organization.

Using this approach meant that the focus of the research would be the community itself. It was decided the focus had to be further restricted to rural communities, those with less than 25,000 people. This was important because many of the problems facing BLM are concerned with disruption in rural, western towns. Further, mostly primary data had to be collected by the research team in the field, and it was important that the results be as easily generalized as possible. Since in-depth studies of only a few cases could produce misleading results, it was important to include as many cases as possible. Eventually, ten case communities were selected.

To obtain data needed for the four components of the model, two main data sources were identified: unstructured interviews and secondary data available only at the state or local level. Secondary data were collected locally for the inputs and community resource components, and for rates of behaviors. Unstructured interviewing was used to collect data on social organization processes and the other two major indicators of well-being -- access to resources and perceptions of the community.

Field research teams of two each were used, with ten members of the project team participating. Of these ten members, nine had considerable experience interviewing in energy-impacted towns, and rotation of team members among teams was used to minimize interviewer bias. Field instruments and procedures were developed and pretested by a three-person team before research on the ten communities was initiated.

1.5 Selection of Study Communities

A purposeful sampling of communities in the six-state study region based on the following criteria was decided to be the most effective sampling procedure.

- 1) The community must have had input from a major energy project between the years 1965 and 1980.
- 2) The energy development impacting the community had to be a mine, a processing plant (or both), or a gas and oilfield development. Employment had to total at least 300 people, since this was approximately the minimum size of projects likely to result from the BLM leasing process. (Although a preference was shown for coal development, other energy activity qualified.)
- 3) The community had to be outside a metropolitan area.
- 4) The energy development had to be past the peak of the construction phase. Preferably, construction would have been completed.
- 5) Because of the tremendous differences in legal and organizational structure between the six states, there had to be representation from each state -- preferably two communities from each state.
- 6) If possible, one of the communities in each state was to be relatively large and one relatively small (compared to the range of community sizes in the six-state area).

From the list of all communities in the six-state region that met these criteria shown in Table 1-1, the communities indicated with an asterisk were tentatively selected for primary field research.

Figure 1-2 is a regional map of the United States which shows the six states with the twelve communities selected for study. Figure 1-3 is a more detailed map of New Mexico and Valencia County and includes highways and other cities and towns. Of the twelve communities selected, ten case studies were completed. Some secondary data were collected for Center, North Dakota and Bloomfield, New Mexico, but because of limitations of time and funding, interviews were not conducted in these two communities.

1.6 Field Procedures and Instruments

The field instruments used were semi-structured interview protocol forms which are included in the Appendix A. In addition, the field team

TABLE 1-1

Communities Tentatively Selected for Primary Field Research

State	County	Town or Community
Colorado	Delta	Cedaredge Delta Paonia
	Garfield	Carbondale Newcastle Rifle
	Gunnison	Crested Butte Gunnison Pitkin
	Jackson	Walden
	Moffatt	*Craig
	Rio Blanco	Meeker *Rangely
	Routt	Hayden
Montana	Rosebud	*Ashland Birney Busby Colstrip Decker *Forsyth Lame Deer
New Mexico	Colfax McKinley	Raton Gallup Thoreau
	San Juan Cibola (formerly Valencia)	Aztec Blanco *Bloomfield Farmington Shiprock *Grants

TABLE 1-1 (cont.)

State	County	Town or Community
North Dakota	McLean	Garrison Underwood *Washburn
	Mercer	Beulah Hazen
	Oliver	*Center
Utah	Carbon	East Carbon Helper *Price Wellington
	Emery	Castle Dale Cleveland Emery Huntington Orangeville
	Sevier	*Salina
Wyoming	Campbell	Gillette Wright
	Carbon	Rawlins Sinclair Wolcott Junction
	Converse	*Douglas Glenrock
	Johnson	Buffalo
	Lincoln-Uinta	Evanston Kemmerer
	Platte	Glendo Guernsey *Wheatland
	Sheridan	Big Horn Dayton Ranchester Sheridan Story
	Sweetwater	Green River Rock Springs

FIGURE 1-2
Location of Study Communities

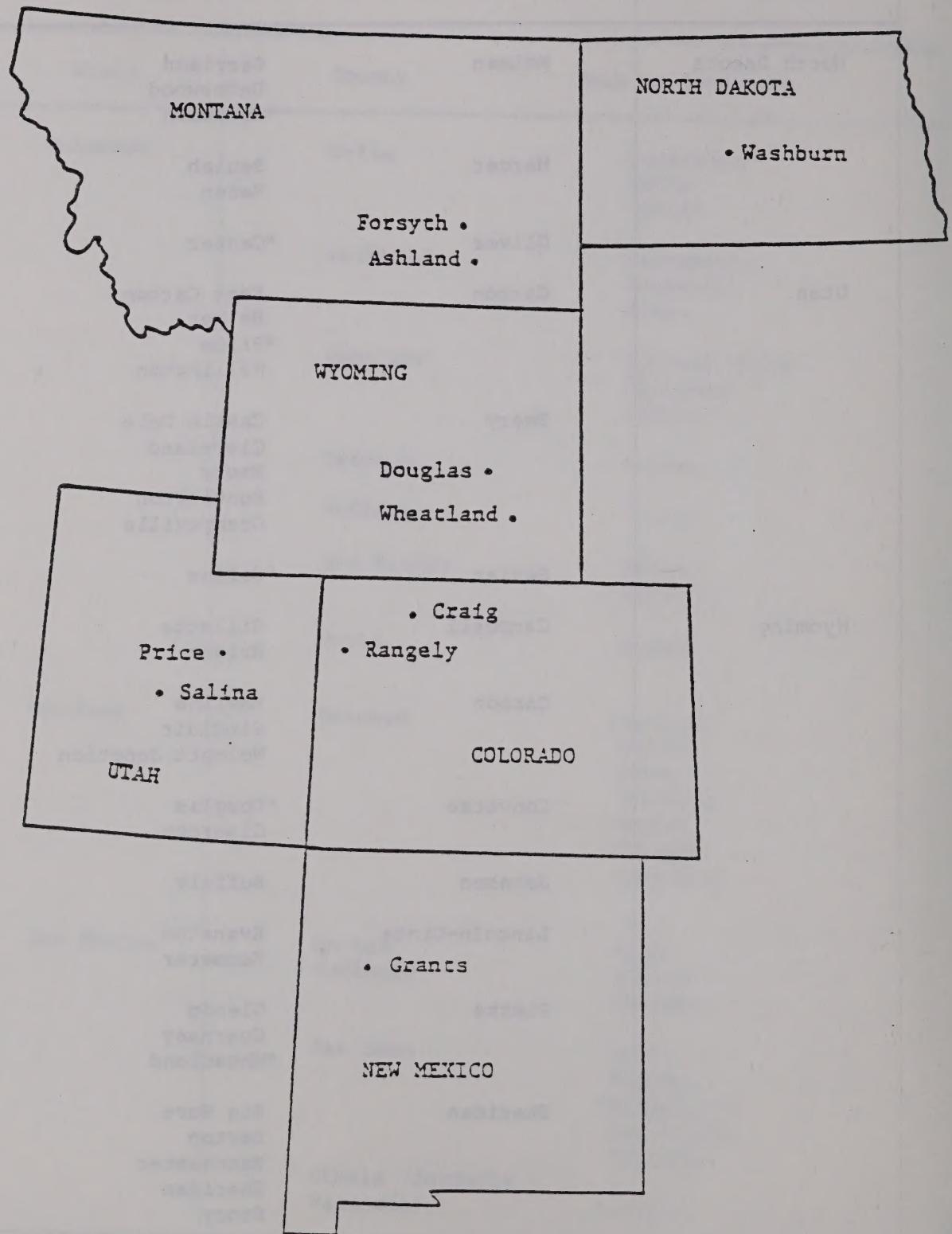
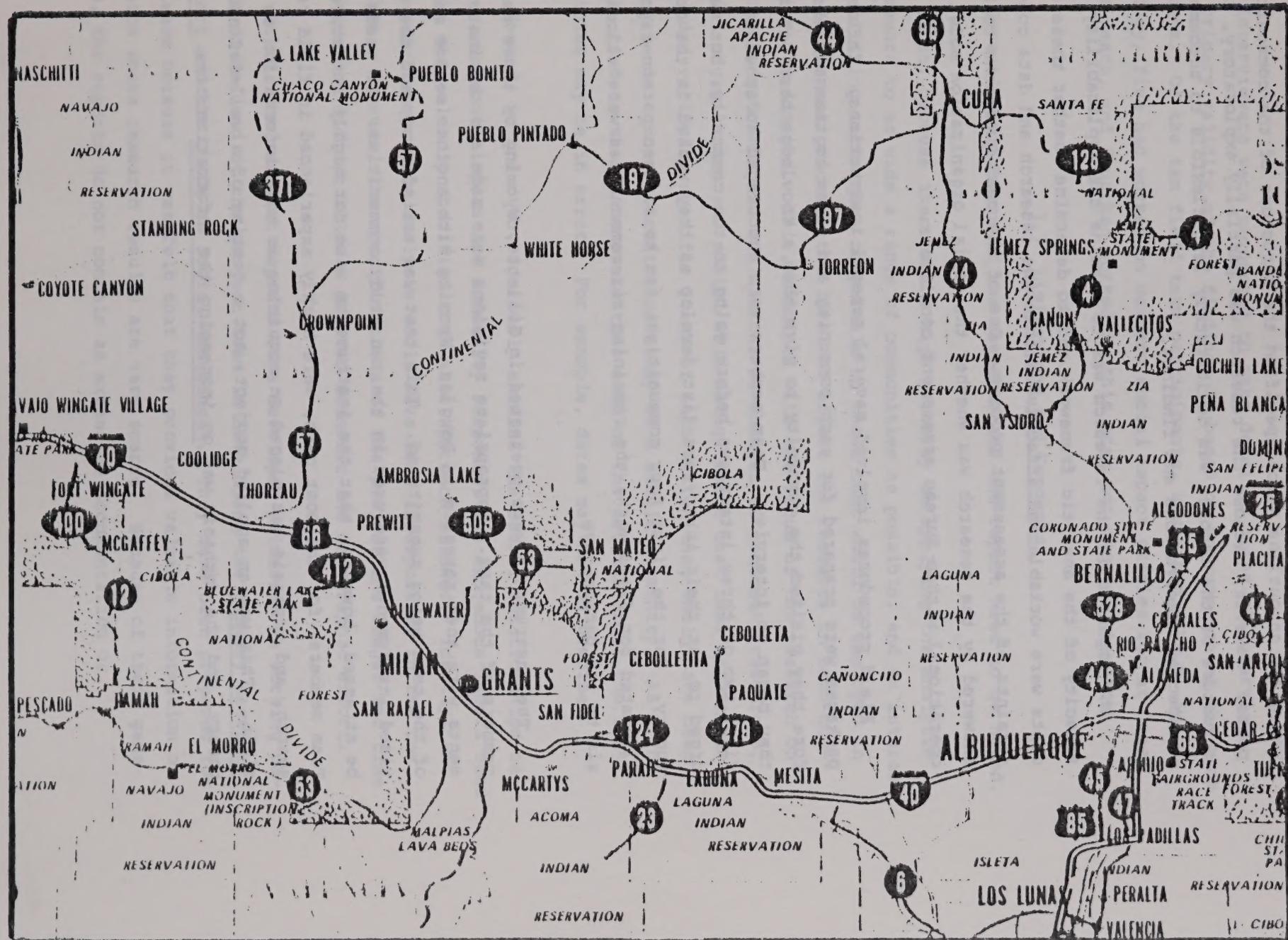


Figure 1-3

Map of Study Area



was given an outline which specified the structure of the community reports. However, because the research was partially exploratory, the structure of the reports was deliberately left flexible to accommodate unexpected observations and findings.

The emphasis in the research was to examine the applicability and veracity of the analytic framework and to determine whether these concepts were workable and effective within the research and data constraints of the assessment process. One of the real questions to be answered by the research was whether the social organization model was operational within Bureau assessment conditions.

Field procedures involved several general instructions. Information packages were prepared for each community and given to team members before they visited the community to give them a knowledge base before they began to interview. Team members were encouraged to schedule the first two or three interviews before going to the community, but were urged to let their interviews list develop as they worked in the community. For the first four communities, ten to sixteen person-days were allocated for field work; the remaining six communities were allocated six to ten person-days.

The instruments were pretested in Gillette, Wyoming by three senior members of the team. Appropriate revisions were made and the instruments were then retested in Douglas, Wyoming with another senior member of the team being substituted. This test was satisfactory and the revised instruments were used in the ten study communities. It needs to be stressed, however, that the instruments were not highly structured. Team members, for the most part, were highly experienced in field research, and emphasis was placed on acquiring as much information as possible. This was an applied project, not a testing of a well-defined theory, and the emphasis was on increasing the information base.

Interviewers were requested to make detailed notes of interviews; the primary validity of the findings is based on concurrence of the team members. Of the ten field team participants, seven had a Ph.D. in sociology, five had worked on western social impact studies for at least five years, and four had worked in this area for over eight years.

1.7 Limitations and Concepts

Several limitations of the research and the report need to be noted.

First, because there was a high priority on applying the analytic framework to as wide a range of communities as possible, and an interest in utilizing techniques comparable to those that would be employed in the assessment process, the level of effort for research in each community was limited. This, combined with the focus of the research on delineating trends and evaluations of changes in community resources, social organization and social well-being, meant that less effort was expended verifying specific items of information than would have been the case in a more concentrated study of a single community. As a result, readers should be aware that some of the details about the communities may be in error. For example, dates may not be precise.

Second, in order to rigorously examine the causal relationships between exogenous inputs and community response, the exogenous inputs need to be more clearly specified than this approach allowed. Ideally, an economic/demographic analysis would have been incorporated in the research. However, the specifications of the project and budget and time constraints did not allow a greater economic and demographic effort.

Third, the research reports were developed primarily as working papers to be used by the project team in developing the Summary Research Report and the Guide to Social Assessment. They have been prepared for release because it was felt that they provided valuable information on topics where research results are very scarce. Because of their genesis, the reports do not contain as extensive documentation or

referencing as would have been included if they had been prepared as final, stand-alone documents, nor is the prose as polished as it might be.

Nevertheless, these limitations do not necessarily lessen the usefulness of the findings; rather, they indicate areas where caution should be exercised in interpreting and applying the results.

1.8 Organization of the Report

This report is organized to correspond with the social organization model, with some accommodation to the need for orientation to the community early-on. The second chapter presents a brief summary of the history of the community and its resources. The third chapter describes the resource development activities in the vicinity of the community. Chapters 4 through 7 discuss the changes that occurred in the social organization of the community as a result of the energy development in the following sequence: (1) differentiation (complexity/diversity), (2) extra-local linkages, (3) stratification, and (4) integration and personal interaction. Chapter 8 addresses the effects of the energy development on various indicators of well-being. Chapter 9 provides a brief overall summary.

2. HISTORICAL ANALYSIS

2. HISTORICAL ANALYSIS

2.1 Location and Early History

Grants is located along Interstate 40 in west-central New Mexico and north-central Cibola County.¹ The area's topography is diverse, ranging from the mountain elevations of Mt. Taylor (11,389 feet) to the north, the Zuni Mountains to the southwest, and the low desert elevations to the east. Grants is located at an elevation of 6,464 feet.

The semiarid climate is characterized by sunshine, small amounts of precipitation, low humidity, and high daytime temperatures. The landscape includes a variety of mountains, mesas, canyons, plateaus, valleys, volcanic peaks and cones, as well as the El Malpais (or Badlands -- 84,000 acres of cinder cones, lava tubes, and ice caves).

Seven Indian reservations lie partially or wholly within Cibola County. These include the Acoma, Isleta, Laguna, Zuni, Ramah, Canocito, and Navajo. Of these, the Laguna and Acoma are the most important to the city of Grants. The majority of the reservations and land grants are relatively small and isolated. The history and perceived future of these populations are closely tied to the geographic area. They are also distinguished from other area residents by the special nature of their land rights and jurisdictional status.

Cibola County encompasses two incorporated communities, Grants and Milan. It also includes a variety of small unincorporated communities, such as Cebolleta, Moguino, San Fidel, Cubero, San Rafael, San Matero (Spanish land grant communities), Bluewater (a Mormon community), and Laguna, Mesita, Paguato, Acoma, and Parajo (Laguna and Acoma communities).

¹Until 1981, Grants was part of Valencia County. In 1981, the western portion of the county was separated off to form Cibola County.

Grants is located approximately 40 miles east of Gallup, the capital of the Navajo Nation, and 78 miles west of Albuquerque, the primary urban, trade, and transportation center for Grants as well as New Mexico. The principal transportation routes through the county include U. S. Highway 66, Interstate 40, and the Atchison-Topeka and Santa Fe (AT&SF) Railroad. The county has a sparsely developed road network.

The first inhabitants of the area were prehistoric Indians who developed a productive agricultural system and established a network of pueblos and trade centers. The nomadic Navajos and Apaches arrived later. The first Europeans to visit the area, Spanish explorers (notably Francisco Vasquez de Coronado) and missionaries, arrived in the mid-1500s. The Spanish settled throughout the region, most notably in the Rio Grande Valley and in Santa Fe, establishing an agrarian economy. These settlements encroached upon traditional Indian land, thereby creating an atmosphere of conflict that remained unresolved until the latter half of the 1800s. (New Mexico Commerce and Industry Department 1980.)

The entire region was under Spanish rule until 1821 when Mexico gained its independence from Spain. In 1848, after twenty-seven years under Mexican authority, the New Mexico territory, under the treaty of Guadalupe Hidalgo, became part of the United States. Following U.S. statehood, the area witnessed the first substantial influx of Anglo-Americans (non-Indians and non-Spanish Americans). These in-migrants were primarily ranchers, railroad workers, and miners. (New Mexico Commerce and Industry Department 1980.)

Grants is located on the original site of the Don Diego Antonio Chavez ranch, now known as Los Alamitos. In 1882, President Chester A. Arthur granted 164 acres of land (including the Grants townsite) to Don Jesus Blea. In the same year, three Canadian brothers (Angus, John, and Lewis Grant) were awarded a contract to construct the Atlantic and Pacific Railroad (now the Santa Fe Railroad) from Isleta, New Mexico to Needles, California. The brothers established their construction camp

headquarters and maintained a telegraph office near the present-day Grants location. When construction of the railroad through the area was completed, the community of "Grant" consisted of a depot, general store, section house, coal chute, and a few houses. The name was officially changed to "Grants" by Congress in 1935. (Grants-Milan-West Valencia Chamber of Commerce; Grants Daily Beacon 1981; New Mexico Magazine 1944.)

2.2 Important Historical Events

Grants has had a colorful and varied history. The city's important historical events include the following:

- 1) The completion of major transportation routes (the Atlantic and Pacific Railroad in the 1880s, U.S. Highway 66 in the early 1900s, and Interstate 40 in 1975)
- 2) The construction of the Bluewater Irrigation Dam and Reservoir in 1927
- 3) The introduction of major new economic activities (lumbering in 1925, carrot production in 1939, and uranium mining in 1950)
- 4) Change in government structure (the incorporation of Grants in 1945, the creation of Cibola County, and the establishment of Grants as the county seat in 1981)
- 5) The establishment of countywide events (for example, the Uranium Capital Bi-county fair in 1968)
- 6) Major changes in the uranium market (the uranium boom in the 1950s and 1960s, and the down cycles in the 1960s, the late 1970s, and early 1980s)

2.3 Economic Base of the Community

Grants was established as a railroad town in the 1880s. The construction of the railroad provided jobs for the local residents (Anglos and Indians) and established Grants as a shipping point for local cattle and sheep until the mid-1940s. A significant component of the earliest settlers were ranchers and sheepherders.

The early economy of the town was based on livestock. Lumbering, which began on a small scale west of Grants in 1890, became an important industry to the area from the early 1900s until after World War II. Several sawmills and a box factory were located in Grants. The population of Grants was approximately 300 residents in 1925. The town

experienced a significant growth following the establishment of a logging operation in the Zuni Mountains in 1925 which employed about 2,100 persons. In the late 1930s, irrigated agriculture (notably carrots, but including cauliflower, lettuce, beans, onions, cabbage, and potatoes) was introduced in the Bluewater Valley. Carrot production flourished for over a decade. During the peak period (1946), 2,000 carloads of carrots were shipped from the area annually. Several factors then led to the decline of the carrot industry: new packaging, increased freight costs, competitive commercial farms, and competition with uranium mining for water and labor.

In recent decades, large deposits of uranium ore have been discovered and mined in New Mexico. Cibola County is located in the region known as the Grants Uranium Belt, which is "...the most important uranium-producing district in the United States, estimated to contain one-half of the nation's uranium ore" (New Mexico State Planning Office, Division of Natural Resources 1976). Although a variety of mining activities occurred in the area prior to the 1950s, the discovery of uranium led to a shift in the economic base to mining by the mid-1950s. It should be noted that due to its location between Albuquerque and Gallup, Grants has always served as a retail trade and service center for local area residents as well as tourists. (Grants Daily Beacon 1981; Grants-Milan-West Valencia Chamber of Commerce n.d.; and Harvey n.d.)

2.4 Previous Mineral and Energy Development

Mineral exploration and development began in the Grants area in the 1930s with the mining and milling of pumice near Mt. Taylor. The crushing plant was built in Grants in 1938.¹ While the U.S. Gypsum Company has continued the mining operation, it was most active during World War II, when supplies of similar quality pumice from Italy were interrupted. During World War II, fluorspar was mined in the Zuni

¹The pumice was purchased by Proctor and Gamble for Lava soap, by the U.S. Navy for use in nonskid deck paint on battleships, and by the dental industry.

Mountains by the Navajo Fluorspar Company to produce high-test gasoline used in aviation fuel. Following the end of the war, foreign markets once again became the primary producers of fluorspar. In the early 1940s, oil from the Ambrosia Lake area was pumped and piped to a refinery at Prewitt, west of Grants. (Grants-Milan-West Valencia Chamber of Commerce n.d.; Grants Daily Beacon 1981.) Uranium was discovered in 1950 on Sante Fe Railroad property near Haystack Mountain, approximately ten miles west of Grants. The discovery triggered a uranium rush as dozens of companies searched for the ore. In 1951, the Anaconda Company discovered a huge ore deposit on the Laguna Reservation which became the Jackpile Mine. Deposits at Ambrosia Lake were located by 1955. In 1955, the major companies involved in the local uranium industry included: The Anaconda Company, Kermac, Nuclear Fuels, Phillips Petroleum, Stella Dysart (Rio del Oro), Homestake-Sapin, Homestake New Mexico Partners, Holly Uranium, Climax, E.P. Moe, Calumet and Hekla, Ranchers Development, and Four Corners. By 1950, five uranium processing mills were operating in the Grants-Milan-Ambrosia Lake area. (Grants-Milan-West Valencia County Chamber of Commerce n.d.)

Faced with a severe shortage of uranium and a potential loss in the world race to develop nuclear energy, the U.S. Atomic Energy Commission (AEC) called on private enterprise to seek and develop new sources of uranium. Therefore, the AEC contracted to purchase all the uranium oxide that companies could produce (Grants-Milan-West Valencia Chamber of Commerce n.d.) In the early 1960s, however, the government contracts ended. The mining companies began selling to private domestic and foreign markets. When the AEC pulled out as the main customer, many companies that had come to the area during the first boom in the 1950s shut down, and their personnel moved away or were transferred. (Grants Daily Beacon 1981.)

During the 1960s and 1970s, extensive coal development occurred in San Juan County to the west. Although almost none of this development was actually located in Cibola (then Valencia) County, the growth of the region's economy and population as well as the anticipation of coal mining activity added to the sensation of rapid change for residents of the Grants area.

Historically, Grants has functioned as a secondary retail trade and service center for the state and northwestern New Mexico, and as the primary population center and economic hub of western Valencia (later Cibola) County. Prior to the creation of Cibola County, Grants was linked politically to Los Lunas (the Valencia County seat) located eighty miles southeast of Grants on the Rio Grande. Both Los Lunas and Belen (the other major city in Valencia County, located south of Los Lunas on the Rio Grande) have strong economic ties to Albuquerque. Milan, the county's only other incorporated community is located less than one mile west of Grants on U.S. Route 66. Grants and Milan, while geographically and politically separate, have strong economic, political, and social ties. Grants is further influenced by its location between Albuquerque and Gallup because Interstate 40 provides an easy and convenient link between the towns.

2.6 Demographic Characteristics

2.6.1 General Population Trends

In 1950, the population of Grants was 2,251. By 1960, as shown in Table 2-1, the city's population had increased to 10,274, primarily as a result of the expansion in the uranium industry. Between 1960 and 1970, the upward trend was reversed as the uranium industry faltered. By 1970, the city's population had declined to 8,758, and it is estimated that it had fallen to lower levels during the mid-1960s. Although definitive population figures are not available for intercensal years, state and local estimates indicate that the Grants population rose above 14,000 in the late 1970s before declining to 11,451 in 1980.¹

2.6.2 Age and Sex Composition

Because Grants's population experienced wide cycles, the age and sex composition of the population in the census years of 1960 and 1970 (shown

¹It is not clear whether or not these higher estimates included population in the unincorporated areas surrounding the city. Most of those interviewed did not report such a dramatic downturn in population.

TABLE 2-1

Grants, Valencia County, and New Mexico Population
1950 to 1980

Year	Population			
	City of Grants	Grants Division	Valencia County	New Mexico
1950	2,251		22,481	681,187
1960	10,274		39,085	951,023
1970	8,768	16,006	40,539	1,017,055
1980	11,451	24,435	60,853	1,299,968

Sources: U.S. Department of Commerce, Bureau of the Census, 1980 Advance Report, Census of the Population - New Mexico; U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population - New Mexico, Part A - Number of Inhabitants, Tables, 1, & 10; U.S. Department of Commerce, Bureau of the Census, 1960 Census of the Population, Characteristics of Population - New Mexico, Table 10; Washington, D.C.

in Table 2-2 and Figure 2-1), are not necessarily indicative of the demographic characteristics throughout the period prior to the study. No detailed information on 1980 demographic characteristics was available.

As seen in Figure 2-1, the changes in age distribution of the Grants population between 1960 and 1970 reflect some of those generally associated with large-scale energy development, when 1960 is viewed as the development period. The 1960 population had a higher proportion than the 1970 population prime working ages (25-44) -- 30.3 percent compared to 26.6 percent. However, in 1960, a slightly higher proportion of the population than in 1970 was in the nonworking ages, both older (65 and over) and younger (15 and under). In 1960, 44.3 percent were in these age categories compared to 41.2 percent in 1970.

Unlike many small, rural western communities, Grants had a very low proportion of elderly residents, only 1.8 percent in 1960 and 2.6 percent in 1970. In 1970, the sex ratio was 0.99 (male to female) indicating a slight female majority, unusual for a community experiencing a mining boom and having such a small proportion of elderly.

2.6.3 Distinctive Ethnic and Cultural Diversity

Three major ethnic groups with separate but overlapping histories live within Western Valencia/Cibola County: Native Americans, Spanish-Americans, and Anglo-Americans. Each of the groups remained relatively separate and distinct throughout the first part of the twentieth century. Even with improvements in transportation systems and access, the development of energy resources, shifts in the local economy toward commerce and industry, and an influx of Anglo- and Mexican-American people, the overall composition of the community did not change dramatically. According to the U.S. Census, the majority of the population in Grants at the time of the study were white. Of these, approximately 50 percent had Spanish or Mexican surnames. Less than 2 percent of the population were Native Americans (most of the Native Americans living in the county resided on reservations). During the period of rapid energy

TABLE 2-2

Age and Sex Distribution
1970

Years	Grants City						Valencia County						New Mexico			United States			
	Number		Percent ^a				Number		Percent ^a				Number		Percent ^a		Number		Percent ^a
	Male	Female	Male	Female	Total	Male	Female	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-5	574	624	6.5	7.1	13.7	2,260	2,189	5.6	5.4	11.0	4.8	4.7	9.5	4.4	4.0	8.4			
6-15	1,226	1,182	14.0	13.5	27.5	5,461	5,313	13.5	13.1	26.6	12.1	11.7	23.9	10.5	10.6	20.1			
16-24	733	835	8.4	9.5	17.9	3,431	3,593	8.5	8.8	17.3	9.1	9.3	18.4	8.9	8.5	17.4			
25-44	1,177	1,159	13.4	13.2	26.6	4,815	4,932	11.8	12.2	24.0	11.5	12.2	23.7	11.9	11.7	23.6			
45-64	353	481	6.3	5.5	11.8	3,144	3,135	7.8	7.7	15.5	8.5	9.0	17.5	10.1	10.5	20.6			
65+	104	120	1.2	1.4	2.6	1,159	1,107	2.9	2.7	5.6	3.2	3.8	7.0	4.2	5.7	9.9			
1970 Median Age	19.7	19.6			19.6	21.3	21.8			21.6	23.2	24.5	23.9	26.8	29.3	28.1			
1960 Median Age	21.3	18.5			19.8	20.9	19.5			20.1	22.8	22.9	22.8	28.6	30.4	29.5			

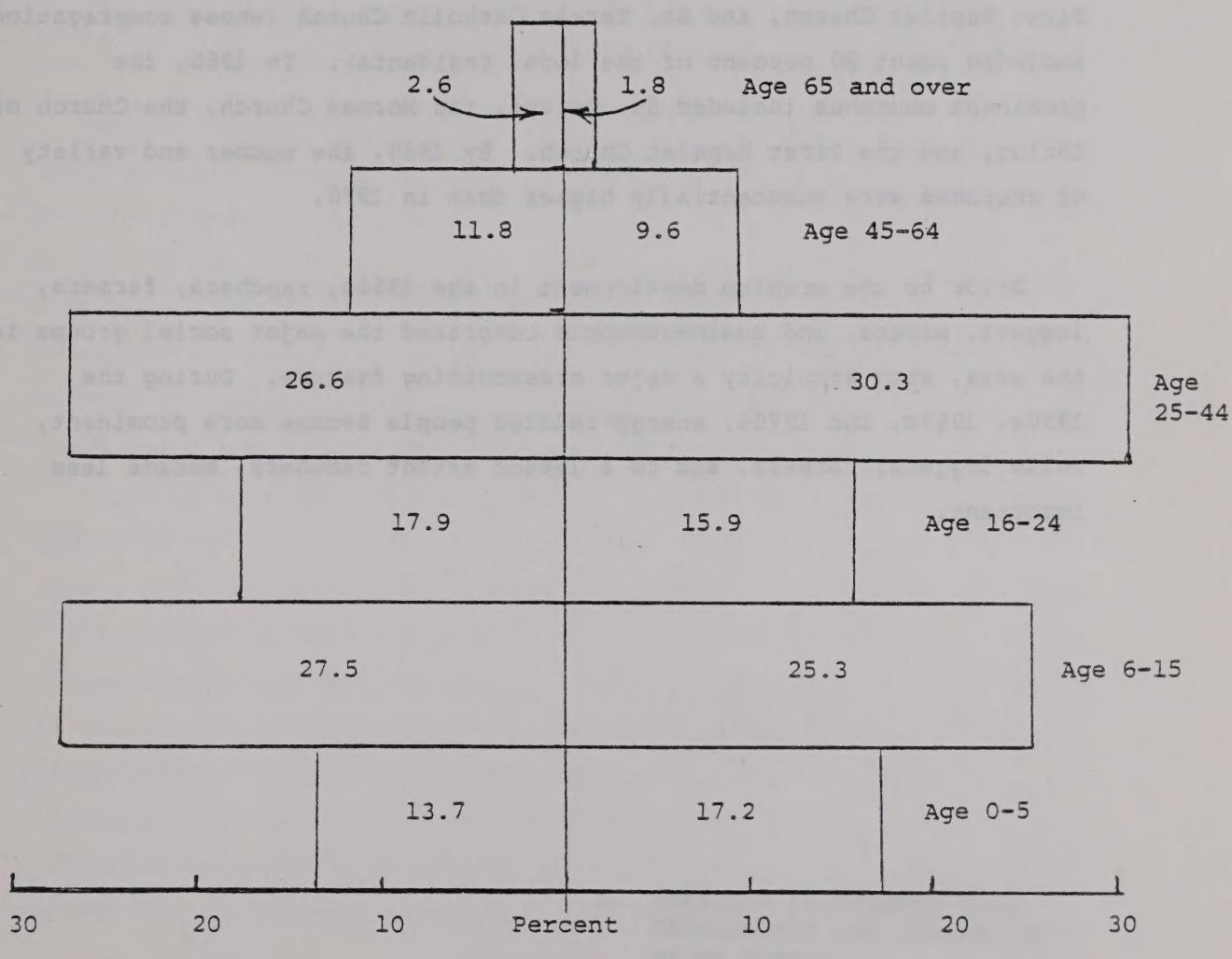
Sources: USDC, BOC, 1970 Census of Population - New Mexico Characteristics of the Population, General Population Characteristics, Part B Tables: 31, 35.

^aPercent of total population.

Figure 2-1

Age Distribution of Population
City of Grants

1970, 1960



growth in the 1950s, significant numbers of people in-migrated from West Virginia, Oklahoma, and Quebec. However, by the 1970s, none of these groups represented significant subgroups in the community. During the 1970s, the inmigration of Mexican-Americans highlighted the distinction between persons of Mexican and Spanish heritage.

Historically, the Catholic Church was a dominant force in Grants. In the early 1950s, the principal churches included the Community Presbyterian Church, the Congregational Church, the Church of Christ, the First Baptist Church, and St. Teresa Catholic Church (whose congregation included about 80 percent of the local residents). In 1980, the prominent churches included St. Teresa, the Mormon Church, the Church of Christ, and the First Baptist Church. By 1980, the number and variety of churches were substantially higher than in 1970.

Prior to the uranium development in the 1950s, ranchers, farmers, loggers, miners, and businesspeople comprised the major social groups in the area, with ethnicity a major crosscutting feature. During the 1950s, 1960s, and 1970s, energy-related people became more prominent, while loggers, farmers, and to a lesser extent ranchers, became less important.

3. PREVIOUS EXPERIENCE WITH
DEVELOPMENT AND SUMMARY OF
MAJOR EVENTS

3. PREVIOUS EXPERIENCE WITH DEVELOPMENT AND SUMMARY OF MAJOR EVENTS

3.1 Introduction

Following the discovery of uranium near Grants in the 1950s, the growth and decline of uranium mining and milling activities dominated local affairs in western Valencia County, particularly in Grants. After a severe cutback in uranium activity in the late 1950s and early 1970s, the industry underwent another major period of expansion. The most rapid growth in mining and milling activity occurred between 1975 and 1978. In order to examine the buildup toward this rapid growth, the study period for Grants was defined as 1970-1980, with some updates to mid-1981 where information was available.

3.2 Description of Energy-Related Projects

3.2.1 The Regional Context

Grants is located in the southeastern corner of the coal- and uranium-rich San Juan Basin, which includes San Juan, McKinley, Sandoval, and Valencia counties. (Some coal mining activity is also located in Colfax County.) The changing policies of the U. S. Atomic Energy Commission (now the Nuclear Regulatory Commission), the expectation of rapid development of uranium-fueled electrical generating facilities, and the dramatic change in the economy of energy resources during the 1970s promoted widespread and aggressive development of the coal, uranium, oil, and natural gas resources throughout the intermountain West. These conditions resulted in an influx of very large, multinational conglomerates into the uranium and coal industries and a very rapid expansion of employment in these sectors during the late 1960s and 1970s.

The majority of the coal development in New Mexico occurred in San Juan and McKinley counties. As of March 1981, there were ten active coal mines in New Mexico. Three of these had opened in the 1960s. The remaining seven opened between 1972 and 1980. Associated with the coal

mining activity was a large-scale expansion in electrical generation, primarily in the Farmington area of San Juan County. It was estimated that in 1980 employment from coal mining was approximately 1,700. The employment created by the construction of the coal-fired power plants near Farmington and the population influx it created were even more important to the region. By 1980, eight generating units were in operation -- three at the San Juan station (totaling 1,088 MW and becoming operational in 1973, 1976, and 1979), and five at the Four Corners Station (totaling 2,172 MW and becoming operational in 1963(2), 1964, 1969, and 1970). (New Mexico Energy and Minerals Department 1981.)

Grants, located between the coal fields and Albuquerque, the major commercial and transportation center of the state, received some employment and population spillover effects from the coal-related activity. Of greater importance to Grants was the impetus that the massive coal development gave to the state government to develop tax policies and mechanisms to provide state assistance to communities impacted by energy resource development. The fact that communities throughout the intermountain West were being overwhelmed by energy development related growth prompted state officials to give more immediate attention to these problems.

3.2.2 Uranium Projects

As mentioned briefly in Chapter 2, the Grants area contained one of the largest uranium deposits in the United States. Uranium exploration, mining, and milling was an important aspect of the local economy from its discovery in the 1950s. The intensity of development was extremely erratic, fluctuating wildly in response to governmental policies regarding uranium marketing and rates and to worldwide price fluctuations.

Initially, much of the uranium development had been undertaken by small, regional firms. As market prospects widened with the easing of governmental distinctions and the anticipation of widespread development of uranium-fueled electrical generating facilities, the smaller owners

were taken over by some of the largest resource-based corporations in the world -- Anaconda, Gulf, ARCO, Homestake, SOHIO, and United Nuclear.

Table 3-1 summarizes the uranium-mining activity that was located in the Grants area during the late 1970s. As indicated, effects from a relatively large number of different projects were undertaken by a variety of corporate actors. Since much of the development overlapped, the cumulative effects were substantial; it is estimated that more than 3,000 Grants area residents were employed in uranium mining and milling. Although the growth was dependent almost exclusively upon a single industry, the multiplicity of actors prevented the development of a "company town" atmosphere in Grants.¹

None of the uranium activities were located within the unincorporated area of Grants. Indeed, the development was distributed over a fairly wide radius around the city. None of the projects were visible from the town, and many were located within reservation or land grant boundaries. To some extent, this reduced the impacts on Grants, since companies generally were required to establish training programs and meet employment quotas for reservation or land grant members. Although the effects of uranium development on these special populations were not examined in detail, it is clear that these policies, as well as the practice of developing housing subdivisions or mobile home courts proximate to the work sites, had significant and potentially far-reaching effects on these areas.

Aside from the development of some housing, little effort was expended by the companies in Grants on mitigation programs. According to the interviews conducted for this study, most residents did not expect or consider extensive mitigation to be necessary.

¹This was less true on the reservations and land grants, where a single company frequently controlled the development. These areas were not examined in detail as part of this project.

TABLE 3-1

TABLE 3-1 (cont.)

Estimated Average Annual Employment by Place of Work
1979-80

Uranium Projects	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 ^b
McKinley (Coal) (Est).	351	351	351	351	351	351	351	351	351	351
Wentmore-(Coal)	-	-	-	-	-	-	-	- opened	175	175

Source: Bureau of Mines Inspection Annual Reports 1971-1980, (1973 missing). New Mexico Energy & Minerals Department, Albuquerque.

Note: NA = Not Available.

^aMine & Shaft.

^bNumerous mines cut back employment or shut down during the latter part of 1980. These numbers may be over-estimates.

Table 3-2 shows the characteristics of employment opportunities in Valencia County from 1967 to 1979. The temporal pattern of uranium development in the Grants area is clearly shown in the mining sector, while the economic response is illustrated by the change in total county employment.

3.3 Summary of Major Events, Issues, and Actions

In 1970, the Grants area was beginning to feel the indications of a resurgence in uranium activity. During the lull in the late 1960s, many of the existing mines and mills, as well as available mineral rights, had been acquired by large corporations. From the perspective of local residents, this was viewed as a move which was likely to provide greater stability to the uranium industry and to minimize the exaggerated and disruptive growth and decline cycles of the past.

At the start of the study period, the Grants community was faced with the following issues:

- 1) How to control the expected boom and even out the economic cycles
- 2) How to increase community revenues (which, because of the relatively low assessed valuation of the city, were barely adequate to maintain existing service levels) and/or to contain public expenditures
- 3) How to increase community influence in Valencia County
- 4) How to deal with the youth gangs that were affecting residents' perceptions of personal safety while dealing with political and racial/ethnic conflicts within the law enforcement agencies
- 5) How to improve the quality of education in the Grants system

3.3.1 Handling the New Boom Cycle

By 1970, most decision-makers and residents of Grants had accommodated themselves to the idea of Grants as an energy resource community. Uranium mining had been incorporated into the community's image. "Grants, the uranium capital of the world," had become the city's slogan. By 1970, most decision-makers and residents of Grants also were experienced in the consequences of booms and busts in the

TABLE 3-2
Employment by Industry by Place of Work
Valencia County
1967-79

Industrial Sector	Number						Percent					
	1967	1970	1972	1975	1977	1979	1967	1970	1972	1975	1977	1979
Total Employment	8,219	9,011	9,883	11,014	13,454	15,913	100.0	100.0	100.0	100.0	100.0	100.0
Proprietors												
Farm	702	634	645	672	719	680	8.5	7.0	6.5	6.1	5.3	4.3
Non-Farm	631	686	788	866	1,002	1,097	7.7	7.6	8.0	7.8	7.4	6.9
Wage & Salary Emp												
Farm	333	258	262	243	243	313	4.1	2.9	3.7	2.2	1.8	2.0
Agr Services	46	26	33	25	40	47	0.6	0.3	0.3	0.2	0.3	0.3
Mining	596	867	858	1,434	2,328	2,863	7.3	9.6	8.7	12.9	17.3	18.0
Construction	588	365	368	554	680	1,262	7.2	4.1	3.7	5.0	5.1	7.9
Manufacturing	235	310	333	276	270	345	2.9	3.4	3.4	2.5	2.0	2.2
TCPU	947	914	840	859	893	981	11.5	10.1	8.5	7.7	66.0	6.2
Wholesale Trade	65	85	88	220	245	295	0.8	0.9	0.9	2.0	1.8	1.9
Retail Trade	1,049	1,196	1,345	1,677	2,030	2,403	12.8	13.3	13.6	15.1	15.1	15.1
FIRE	174	224	379	419	441	504	2.1	2.5	3.8	3.8	3.3	3.2
Services	852	1,243	1,501	1,215	1,222	1,381	10.4	13.8	15.2	10.9	9.1	8.7
Government	2,001	2,203	2,483	2,644	3,341	3,742	24.3	24.4	24.7	23.8	24.8	23.5

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 1967 through 1979; April 1981.

Note: TCPU = Transportation, Communication, and Public Utilities. FIRE = Finance, Insurance, and Real Estate.

uranium industry and knew some of the problems the community would have to face. Because community revenues were relatively limited and because there was little expectation that the new development would substantially increase the municipal tax base, the community anticipated difficulty in expanding public facilities such as water, sewers, and roads to meet the demands. Although local and regional capacity for housing construction was relatively good, there was a general acknowledgement that the uncertainty associated with the timing, magnitude, and duration of the forecast growth would prevent developers from moving aggressively in anticipation of demand.

Yet, despite the general awareness of the problems that would occur, most decision-makers and residents appear to have favored renewed uranium development. City officials were prepared to provide what services they could, to strive for adequate rather than optimum service levels, and to weather the growth period, hoping that it would be moderate and would result in a stable, robust community and economy.

Of importance to Grants was the interest and political power of two state government officials -- one in the house and one in the senate -- and the recognition by state government that local communities in New Mexico were bearing most of the burden of resource development, though revenues from that development benefited the entire state. Based on the example of the western energy resource states, notably Montana and Wyoming, New Mexico imposed a severance tax on coal and instituted a community impact assistance program aimed specifically at energy-impacted communities. Through its excellent state political ties and demonstration of need, Grants obtained a substantial share of the available assistance monies. These funds were crucial to the development of a new water and sewer system (constructed in cooperation with Milan) and to the improvement of the municipal road system during the second half of the 1970s.

Also of importance to the community was the recognition by both community residents and those vying for political power that serious

adverse consequences would result if elected officials were prevented from making and implementing decisions or establishing community-wide priorities during the rapid growth period. Consequently, despite a continuing struggle for political position and power, conflict was controlled, and a degree of cooperation maintained, allowing community leaders to be relatively effective in governing the community.

Largely because of previous experience with rapid growth, community leaders in Grants were aware of the pressures that would emerge for land development and the conflicts of interest that could arise. During the mid-1970s, community leaders strengthened the land use and zoning regulations of the city and instituted more stringent enforcement procedures.

However, perhaps also because of their previous experience with uranium-based growth, neither the residents nor the leaders of the community seemed to feel that it was possible or appropriate to try to regulate or control the growth itself. As mentioned previously, the community appeared to generally favor growth, and though aware of the difficulties created by very rapid population growth, were more concerned about the potential for another bust.

Throughout the study period, the desirability of economic diversification was continually noted. However, despite the presence of numerous multinational companies with far-flung interests, no substantive progress in this area was made during the decade. At the time of the study, the community remained extremely vulnerable to fluctuations in the uranium industry. As the industry underwent rapid decline, the search for diversification took on added intensity, and the community enlisted the aid of the state to identify opportunities to attract other industries to the area.

3.3.2 Increasing Community Revenues and/or Limiting Public Expenditures

A major problem for the community throughout the study period was a lack of public revenues to finance needed facility expansion and

operation. Inadequate resources were not a new problem to municipal government in Grants; during the 1970s, the problems were aggravated by the generally limited and poor condition of existing facilities -- the result of long-term revenue deficiencies.

During the study period, two major changes occurred in the state tax structure that had positive effects on Grants. First, in 1974, the state revised the structure of school financing, instituting an equalization program that was generally beneficial to Grants. Second, during the 1970s, state laws concerning sales tax collection and redistribution were also revised, increasing the authority of local governments to impose sales taxes. Grants took advantage of this legislation, and by the time of the study, a major portion of municipal revenues was obtained from sales taxes. Although the responsiveness of this tax to changes in business activity and population was an advantage during the growth period, it was a disadvantage during the period of rapid decline, since revenues fell abruptly when employment dropped, even though service demand remained high.

Community officials in Grants uniformly agreed that the establishment of the State Community Assistance Council and the ability of the community to obtain impact assistance funds had been critical to their ability to provide adequate service in the areas of water, sewage, and roads. During previous growth periods, inadequate water supply had been a serious problem; with the funds obtained from the state, water supply problems were largely overcome during the study period, and roads were greatly improved.

According to the interviews conducted for this study, neither residents nor community leaders expected per capita public revenues to increase greatly as a result of energy development. Consequently, it appears that most residents did not anticipate or press for major improvements in service standards -- except in areas like water and streets, where existing levels were clearly inadequate.

Because of the prevailing tax structure, community leaders focused on obtaining federal and state grant monies. They were quite successful in obtaining state impact assistance funds, but, due largely to the inactivity of their regional COG, were less successful in obtaining other state and federal grants. As a result, the community remained under severe financial pressure throughout the study period.

3.3.3 Increasing Community Influence in Valencia County

One of the long-standing issues in Grants was their position in and relationship to Valencia County. Grants and the rest of western Valencia County had substantially different problems and concerns than eastern Valencia County, which was concerned primarily with the problems of suburbanization. Because the eastern portion of the county had a large majority of the county population, Grants residents frequently felt that their interests were not well served by county government. In addition, the long distance between Grants and the county seat made county government remote and inconvenient. A long-standing goal of western Valencia County was to establish itself as an independent county. Largely through the efforts of the community's representative to the state legislature, Cibola County -- previously the western portion of Valencia County -- was formed in 1981. This was considered a major legislative victory and was anticipated to have long-term positive effects on Grants. Grants was designated the county seat of the new county, creating a variety of new jobs in the community and promoting some of the economic diversification that was being sought as uranium employment declined.

3.3.4 Dealing with the Youth Gangs and Other Problems with Law Enforcement

In the early 1970s, a number of youth gangs were active in Grants. According to police officials and community residents, gang fights and other gang activities were creating real public safety problems in the community and had seriously affected residents' perceptions of personal safety. Chronic issues of racial/ethnic discrimination and conflict

also plagued the Grants police department, reducing their public image and effectiveness.

During the 1970s, several changes in community officials (particularly in the position of city administrator) were made as part of the on-going political struggle over the police department's personnel and hiring policies. Complaints of discriminatory treatment of Hispanics were investigated, and the composition and performance of the police department were major public issues for much of the 1970s.¹

As a result of police action and changing community mores, gang activity dropped during the early 1970s and was not seen as a major problem in the community during the remainder of the study period. No clear explanation of this phenomenon was evident. Tension regarding the police department itself continued throughout the study period, though by 1981, most issues appeared to have been resolved.

Although these issues of public safety were among the most important that emerged during the study period, it does not appear that energy development was an important factor in their emergence or resolution. Residents clearly felt that community well-being had improved with the reduction or elimination of gang activities and the resolution of police/community conflicts.

3.3.5 Improving the Quality of Education in Grants

As with public safety, the quality of public education was a long-standing issue in Grants. Concern over the quality of school facilities, programs, and personnel persisted throughout the study period. This was due to concern over racial conflicts and student violence in the schools and to the incidence of drug use and trade among the student population.

¹As a result of this continuing issue, the Grants police department installed a video tape machine in its booking area to provide concrete evidence about police and suspect actions.

There was also discontent over the handling of school athletic programs, over school facilities, and over the quality of area teachers. In addition, during the study period there was a struggle over the composition of the school board centering upon the representation of Native Americans on the board. Within this context, the problems caused by energy development (rapid expansion of the student population, teacher turn-over because of competition with higher paying industry jobs, and the increased number of temporary or transient students) though not minor, were not generally among the first mentioned by area residents or school officials.

School officials and community residents generally seemed to feel that the school situation was better in 1981 than it had been in 1970. School facilities were improved, racial conflict and drug use were thought to have been reduced, and the Grants branch of the state university was functioning well and providing a good opportunity to area youth for further education. Efforts were underway to provide better counseling to troubled students and to deal with the multiethnic character of the student body in a more effective manner.

As with many of the other important issues in Grants over the study period, the role of energy development and rapid growth on public education in Grants is not entirely clear. It is evident that the issues were not caused or created by energy development or by the new population it brought into the community. In some cases, it appeared that the introduction of new people who were not so fixed in their views of these continuing community issues may have played a role in devising and implementing more effective responses. In others, the additional burdens placed upon the system by the need to expand facilities and personnel, and to integrate the large numbers of newcomers would seem to have inhibited the system's ability to address these important, basic issues.

Private schools (primarily religious) had traditionally been important in Grants. Several community leaders mentioned that the

increased population brought by energy development had been crucial to the ability of these schools to remain open.

Although the energy development that occurred within the Grants school district did increase the assessed valuation upon which school capital facility revenues were obtained, thus increasing the ability of the system to build new physical facilities, the state equalization laws limited the effect of increased property valuation on school operating revenues.

At the time of the study, the school system was facing severe financial difficulties as student enrollment fell due to the decline in the uranium employment. State revenues were based on student membership in the system and were adjusted monthly. This meant that during the period of rapid student decline, the reduction in funds to the school system occurred faster than school district costs since teachers and other personnel were generally on one-year contracts. This, along with other problems faced by Grants during 1981, illustrated clearly the focus that the state had placed on providing assistance to communities during periods of rapid growth -- and demonstrated that the mechanisms for assisting communities during periods of rapid decline were not yet in place. Many of the rapid response characteristics that the state had intentionally built into the funding systems to assist communities during rapid growth had adverse effects on the communities during periods of rapid decline.

dissemination of energy-related effects upon community resources, and the relationship of residents to the community.

Political Differentiation

Three aspects of political differentiation are considered in this analysis:

1. changes in the complexity or diversity of the political structure or governmental organization of the community
2. changes in the complexity or diversity of the legislative environment and governmental procedures of the community and

4. CHANGES IN DIFFERENTIATION

4.1 Introduction

Differentiation is a process by which a system becomes more complex and diverse. In the communities being studied, differentiation occurs as a dual process of expansion in the variety of roles and functions existent in the community and an increased specialization by individual businesses, organizations, and persons. An undifferentiated community would be one in which all residents share similar qualities, engage in similar activities, share community responsibilities equally, and hold common beliefs. Differentiation is highly correlated with the size of a community, though economic, cultural, and historical factors are also influential.

The degree of differentiation in a community is important for social impact assessment because it affects both the community's ability to respond and the manner of likely response to the demands of growth and development. A community's differentiation at the onset of energy development shapes the types of issues or problems that arise and is an indicator of the experience and skills available for response.

This section reviews the changes that occurred in the political, economic, and social differentiation of Grants over the study period and discusses how they are related to energy development. It also analyzes how these changes affect the ability of the community to respond, the distribution of energy-related effects among community residents, and the relationship of residents to the community.

4.2 Political Differentiation

Three aspects of political differentiation are considered in this analysis:

- 1) Changes in the complexity or diversity of the political structure or governmental organization of the community;
- 2) Changes in the complexity or diversity of the legislative environment and governmental procedures of the community; and

Genomic Function 2.1

Genomic function is the process by which a genome is used to produce various molecular products, including proteins and RNA. Genomic function can be divided into two main categories: transcription and translation. Transcription is the process of copying DNA into RNA, while translation is the process of using RNA to produce proteins. These two processes are tightly linked, as RNA is used as a template for protein synthesis. The resulting proteins then perform various functions within the cell, such as catalyzing chemical reactions or providing structural support. In addition to these primary functions, genomic function also includes the regulation of gene expression, which involves controlling the rate and timing of transcription and translation.

Genomic function is achieved through a variety of mechanisms. One mechanism is gene regulation, which involves controlling the rate and timing of transcription. This can be achieved through various mechanisms, such as promoter methylation, histone modification, and RNA interference. Another mechanism is gene expression, which involves the actual production of proteins. This can be achieved through various mechanisms, such as ribosome recruitment, post-translational modification, and protein targeting. These mechanisms work together to ensure that the right proteins are produced at the right time and place to support the cell's needs.

Genomic function is also influenced by environmental factors. For example, changes in temperature or pH can affect gene expression. In addition, certain chemicals or pollutants can interfere with gene expression. These environmental factors can have both positive and negative effects on genomic function. For example, some chemicals can act as carcinogens, while others can act as antioxidants. Understanding how these factors affect genomic function is important for developing new treatments for diseases and for improving the health of individuals.

Genomic Function 2.2

Genomic function is the process of using a genome to produce various

4. CHANGES IN DIFFERENTIATION

Changes in differentiation are the processes by which a genome is used to produce various molecular products, including proteins and RNA. Changes in differentiation can be divided into two main categories: transcription and translation. Transcription is the process of copying DNA into RNA, while translation is the process of using RNA to produce proteins. These two processes are tightly linked, as RNA is used as a template for protein synthesis. The resulting proteins then perform various functions within the cell, such as catalyzing chemical reactions or providing structural support. In addition to these primary functions, changes in differentiation also include the regulation of gene expression, which involves controlling the rate and timing of transcription and translation.

- 3) Changes in the diversity of political position-holders over the study period.

4.2.1 Political Structure and Governmental Organization

The basic political structure of the city of Grants and the Grants Municipal School District remained unchanged over the study period (1970-80). In contrast, and of significance to the community, the structure of the county government underwent a major change when Cibola and Valencia counties were formed from Valencia County in 1981.

4.2.1.1 Cibola County

In 1981, the state legislature created Cibola County from the western portion of Valencia County. The impetus for this legislative act came from residents and governmental officials in western Valencia County (the Grants area). The primary motivations for the formation of a separate county were (1) to increase the jurisdictional autonomy of the area and to heighten its political status, and (2) to facilitate governmental functions by locating the full range of county administration and services closer to the residents.

The creation of the new county resulted in the duplication of elected and appointed officials and staff. The majority of new positions were created in Grants, the county seat of Cibola County, since the existing county seat was located in the eastern portion of Valencia County. The change thus resulted in a significant increase in the number and type of political positions and services available in Grants. Cibola County obtained its own three-member board of commissioners, county attorney, and sheriff. These positions were initially filled by appointment of the governor, with regular elections to be held during the next electoral sequence.

Prior to the creation of Cibola County, residents of western Valencia County had sought and secured county suboffices for many of the county services (for example, sheriff, roads, assessor) in an effort to

provide residents of the area with easier access, citing the inconvenience and inefficiency of dealing with services located eighty miles away. The process of suboffice establishment continued throughout the 1970s as the population of western Valencia County grew, resulting in an increase in functional duplication which culminated in the splitting of the county in 1981.

Influenced by the urban nature of eastern Valencia County and the experience with large-scale, energy-driven growth during the 1950s and 1960s, the county government serving Grants was already relatively complex by 1970. Consequently, few new areas of government services or types of coordination were introduced over the study period.

4.2.1.2 City of Grants

While the city of Grants maintained its basic major/city council form of government throughout the study period, several notable internal changes occurred during this time.

First, a number of new positions and governmental structures were created. For example, a city administrator's position was created in 1974, followed in the late 1970s by positions for a director of accounting and a project coordinator (to oversee and administer grant programs and monies). In 1974, a paving district was established to address street repair problems. Second, the size of city government increased substantially. The accounting department alone increased from four people in the mid-1970s to eleven people in 1981. Third, the city actively recruited key administrators from outside the local area as the skill requirements for city management increased. Fourth, the internal structure of city government became more technical, controlled, and formalized. For example, the city initiated a computerized accounting system and the police department installed a procedure to video tape booking proceedings. The city administrator established formal procedures for city administration which included obtaining and training administrative personnel. Fifth, government policies became more explicitly defined, were made more operational, and were more carefully

and stringently enforced. This was particularly true in the area of planning and zoning (especially subdivision and mobile home park regulations).

Legislation enabling jurisdictions to collaborate in "joint-powers" agreements was in place in New Mexico at the beginning of the study period. Grants cooperated with Valencia County and the adjacent city of Milan to provide jail facilities, and Grants and Milan cooperated on water, sewer, and road systems. During the study period, the use of joint-powers was encouraged in two ways. First, the municipalities and the county were faced with a number of service demands that were most effectively addressed through a coordinated effort. Second, the community assistance council applied heavy pressure for such collaboration. Grants and Milan cooperated in applying for water, sewer, and road construction grants from the state.

Overall, the changes in legislative and political structure in Grants over the study period were subtle rather than marked. This was due to both the complexity of the system at the beginning of the period and to the relative inaccessibility of the system to newcomers. Throughout the 1970-80 period, governmental and political processes retained their essential character, described by residents as highly political, structured, and complex. Available evidence and resident perceptions indicate that newcomers were not quickly assimilated into the political network, which functioned through an elaborate apprenticeship process. Lengthy and skillful participation in local political and community activities was a prerequisite for attaining leadership or power positions. Consequently, the system was relatively impervious to newcomers and succeeded in responding to the demands of rapid growth with little internal structural modification.

4.2.1.3 School District and Higher Education

As with the town of Grants, the basic structure of the Grants Municipal School District remained essentially constant over the study

period. However, some changes did occur, and the number of classrooms and teachers increased substantially.

The district was not greatly affected by the creation of Cibola County. The system did become the sole district in the county (with the minor exception of a small area in the southwestern portion of Cibola County) rather than one of three, as it had been in Valencia County.

This maintenance of structure was not without opposition. During the study period, pressure was exerted by the All Indian Pueblo Council (AIPC) to split the Grants Municipal School District, forming a new district composed of the Laguna and Acoma reservations and the Cebolleta and Cubero land grants. Although this concept became more accepted during the study period, the split had not yet occurred at the time of the study. In 1981, an Acoma Indian was appointed to the Grants school board (to fill a vacancy), thus adding representation by another major group in the community and increasing the complexity of school board composition. Some reorganization occurred in the structure of the schools. Kindergarten classes were started in accordance with a state-wide program. To address problems of student conflict and parental complaints of inequities between the junior high schools in the system, the structure of the system was reorganized, and a consolidated middle school was formed. A new high school complex was constructed, and the Grants Branch Community College was expanded and enlarged.

The staff of the school became more diverse as new teachers were recruited to fill the additional positions. Through a cooperative program with Human Resources, Inc. (the umbrella organization that coordinated mental health center activities), student counseling services were initiated, and school counselors and teachers were encouraged to upgrade their skills.

In 1974, a statewide equalization program was initiated that changed the formula for school funding. Its major effect was to reduce local responsibility for school operating funds.

4.2.2 Legislative Context and Governmental Procedures

Numerous federal and state legislative changes were enacted during the study period. This changed the context within which the county, municipal, and school district leaders operated. Of particular importance to Grants was the expansion of federal participation in the funding of social services and the establishment of several state and federal assistance/grant programs, especially the FMHA 601 Program administered by the Department of Agriculture and the Community Assistance Council (CAC) impact assistance program.

The creation of these programs prompted the local governments to seek employees with a knowledge of funding sources and with the skills necessary to obtain funds and oversee the grant programs. In the late 1970s, the city of Grants established a position for the administration of grant programs. As discussed in Chapter 6, the availability of these funds resulted in an increased emphasis on community planning and an increased necessity for coordination with regional organizations such as the Council of Governments, as well as with various state and federal agencies. To manage these programs, the city developed and institutionalized new accounting and monitoring procedures. (A separate bank account had to be maintained for each federal grant. At one time, the city had over thirty-eight accounts.)

As city administration became more complex and was increasingly influenced by the requirements of the state and federal government, the interaction between local residents and city officials became more formal, and greater attention was paid to the stringent application of procedures and regulations. This occurred not only in municipal administration, but in law enforcement as well. Police procedures were a volatile community issue throughout much of the study period -- a manifestation of the potential for intergroup conflict in the highly political, triethnic environment of the city. In response to these tensions and to the expansion of the department, more highly specified and closely monitored procedures were instituted, including the

videotaping of booking procedures. According to both law enforcement officials and community residents, this resulted in more equitable, if less personal, law enforcement practices.

At the time of the study, the effects of the creation of Cibola County had not yet been fully realized. It was anticipated that the change would result in a substantial and significant increase in the accessibility of county government officials.

4.2.3 Political Officials and Staff

Since the rapid growth period of the 1950s, newcomers outnumbered longtime residents in Grants. By the 1970s, Grants residents had experienced twenty years of constant change in the composition of the community population, as the peak-decline cycle was overlain with a generally high turnover of residents.

In order to fill the highly skilled positions created in public sector, recruitment efforts were increased. Many of the jobs were filled by persons from outside the local area. Interviews with administrators and staff indicated that many of the newcomers were from other places in New Mexico, that quite a number had lived outside the country, and that a number had previous experience with Grants.¹ A number of staff positions were filled by spouses of persons who had migrated to Grants for energy-related employment (both direct and indirect). The pool of skilled persons in the community appears to have been enhanced through three processes: (1) direct recruitment, (2) accompaniment of other in-migrants, and (3) expanded local training opportunities.

4.3 Economic Differentiation

Three aspects of economic differentiation are addressed in this section. First, change in the composition and diversity of employment

¹The fact that a number of the nonlocal residents interviewed for the study had lived in Grants at some time during the 1950-70 period suggests that some ties and positive attitudes were formed by the newcomers of this era.

in terms of the economic sector is discussed because different occupational and lifestyle characteristics are associated with employment in different industrial sectors, and because changes in employment may indicate a change in the economic base of a community. These economic changes may affect the relationship of the community to the outside world. Second, change in the composition and diversity of businesses located in the community is examined because such change has been identified as of potential benefit to community residents while posing a potential threat to smaller, locally-owned businesses. Third, change in the characteristics of the personnel and staff of community businesses are considered because they can affect the demographic composition of the community and alter established resident-business relationships.

4.3.1 Employment

The purpose of this section is to discuss the differentiation of local employment. By the 1970s, energy development -- primarily uranium mining and milling -- was a dominant force in the economic base of western Valencia County and Grants. The shift in the economic base to mining began in the 1950s. By 1960, 47.3 percent of Grants residents were employed in the mining sector, showing that the industry's dominance of the local economy -- along with the services and governmental employment necessary to support it -- was not new, though it was caused by resource development. As seen in Table 3-2 in Chapter 3, little additional structural change occurred over the study period.

4.3.2 Businesses

During the study period, business activities boomed. While the presence of large national and international energy corporations was not new -- United Nuclear, Anaconda, and Kerr McGee had come into the area in the 1950s -- further consolidations, mergers, and exchanges occurred in the 1970s,¹ and other large corporations became active. By 1980,

¹Homestake split from United Nuclear; Anaconda was purchased by Atlantic Richfield Company (ARCO).

1980, almost all of the major companies involved in uranium development had operations or holdings in the Grants area.

As shown in Table 4-1, the increased population and expanded disposable income created a market for additional businesses, including those providing consumer goods and services. Several new shopping centers were established, and the number and variety of retail and service businesses grew substantially. As part of this business expansion, many nationally recognized franchises and chain stores moved in. The local business owners interviewed for the study generally reported that until the turn-around in 1981, market expansion was so rapid that the problem was meeting demand.

Although an analysis of business success is necessary to determine the comparative survival ratios of small-owner and locally operated versus national businesses, several features were noted by those interviewed. Many of the local business owners in Grants were engaged in more than one enterprise. In many cases, the business activities were of a long-term nature and had been expanded rather than established during the study period. Consequently, most of these operations were free from high rent or mortgage payments and had an established clientele among the longer-term, less energy-dependent population of the area. Many were operated by members of the owner's family. Most did not have branch operations or other businesses outside the Grants area, and a majority had survived previous bust cycles in the community. These characteristics were thought to create a resiliency in local businesses that was not matched by the chain stores and large national corporations. At least in the past, many local owners felt they would survive because they would not give up and leave, whereas the national corporations would leave if the market was expected to be depressed for any extended time.

One consequence of the increase in population and purchasing power that occurred during the 1970s was the ability of the Grants economy to serve the local population and to capture an increased portion of the

TABLE 4-1

Number of Businesses by Industry
 Valencia County
 1965-79

Year	Agricultural Services	Mining	Contract Construction	Manufacturing	TCPU ^a	Wholesale Trade	Retail Trade	FIRE ^b	Services	Nonclass
1965	1	10	45	16	13	25	192	25	120	8
1970	3	10	36	17	18	26	191	26	128	8
1971	1	8	38	18	20	26	185	29	122	10
1972	2	9	41	16	19	27	198	32	129	9
1973	2	9	53	17	21	23	201	32	127	15
1974	4	15	51	22	23	34	226	42	150	39
1975	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1977	11	27	101	36	36	36	250	44	156	28
1978	8	27	111	35	34	39	256	46	158	64
1979	8	26	119	32	38	43	258	52	172	79

Sources: USDC, BOC, County Business Patterns - New Mexico.

Note: NA = Not available.

^aTCPU = Transportation, Communications, and Public Utilities.

^bFIRE = Finance, Insurance and Real Estate.

residents' expenditures. Local residents reported satisfaction with the expansion of local businesses, appreciating the opportunity to buy goods and services in Grants rather than having to travel to Albuquerque. A survey conducted during the latter half of the 1970s showed that Grants residents clearly favored this change.

The increase in local services extended to financial institutions. The first bank in Grants, The Grants State Bank, did not open until 1947. A second bank, The First National Bank of Grants, opened in 1958 during the first energy boom. In 1975, the Belen Savings and Loan (subsequently the Sandia Savings & Loan) was established, providing a local source of home loans (VA and FHA loans had previously been available from institutions in Albuquerque). In early 1980, a third bank, Ranchers State, a branch of a Belen bank,¹ was added to the financial institutions available in the community.

4.3.3 Personnel and Staff

While the increased diversity in the local economy created new employment opportunities for both local and nonlocal workers, the changes that occurred were largely a continuation of previously established trends. A survey of newcomers conducted in the latter half of the 1970s showed that a clear majority of new residents had been drawn to Grants primarily for employment reasons, as was the case in the 1950s and 1960s.

In general, the management personnel for the new operations were company employees brought in from outside the area. This pattern was somewhat moderated in the 1970s, however, because a sufficient number of locals -- both longtime residents and 1950s arrivals -- had worked their way into management or supervisory positions in the companies that had been active in the area for some time (an indication of mechanisms for upward mobility). During the 1970s, federal mining legislation mandated safety and miner training programs. Technological advances in mining and milling and continuing opportunities for on-the-job or formal training

¹In New Mexico, banks can establish branches only within the same county unless they expand into a county with no bank.

allowed miners and other energy-related employers to improve their skills. By 1980, longtime residents and newcomers were working side-by-side in retail and service sector jobs as well.

Significant numbers of women first began working in energy-related jobs during the 1970s. Some became underground miners, but more were involved in milling and support functions. According to the survey conducted in the latter 1970s, women who sought employment in the mines were usually either married to a miner or were the sole wage earner in a family. (There are some indications that these patterns were somewhat different for Native Americans and land grant residents.) Comments made during the interviews conducted for this study indicate that female miners continued to be viewed as deviant and incomprehensible.

4.4 Social Differentiation

This section discusses the changes that occurred in the demographic characteristics of community population and in the bases for formation of social groups in Grants. For a relatively small western town, the social relationships and demography of Grants were unusually complex and dynamic in 1970, the beginning of the study period. Because of its recent history of growth and the ongoing evolution of a triethnic society, substantial changes in social differentiation would have occurred during the 1970s even without further energy development. This situation makes attribution of observed change during the study period more difficult in Grants than in communities where baseline social relationships were more stable.

4.4.1 Demographic Characteristics

The dynamics of social relationships in the community of Grants must be viewed within the context of the region. Although the population of Grants was composed primarily of Anglos and Hispanics, western Valencia County had a relatively high representation of Native Americans and Spanish land grant residents (who did not consider themselves to be similar in social or cultural characteristics to non-land grant

Hispanics). As the service and administrative center for this portion of the county, Grants therefore was more exposed to interaction with Native Americans and land grant residents than would be indicated by the demographic characteristics of its residents alone.

In addition to this regional heterogeneity, the city of Grants itself grew increasingly heterogeneous between 1960 and 1980, as shown in Table 4-2. In 1960, 98.3 percent of the population of Grants were Caucasian; in 1980, this had decreased to 81.4 percent.¹ (Over this same period, the population of Valencia County shifted from 86.6 to 71.2 percent Caucasian.)

According to U.S. census data, 51.6 percent of Grants's population in 1980 were of Spanish origin (U.S. Department of Commerce 1980 Census Advanced Reports). Although no quantified data were available, area residents noted an increase in the diversity within the Hispanic community in Grants during the 1970s caused by the introduction of an identifiable Mexican (as distinguished from Spanish) component. No clear relationship between the in-migration of this group with the energy development activities was established, although it was suggested that the availability of jobs did play a role.

It should be noted that at the same time the new groups were forming, old groups were being assimilated and disappearing. By 1981, residents indicated an almost complete assimilation of the West Virginians who had come to Grants during the earlier energy growth periods of the 1950s and 1960s. When first arriving in Grants, these residents appear to have formed a distinctive social group. By the time of the study, this group was no longer distinguishable, although many longtime residents still commented on their presence during the earlier periods. (It is not known how much the diminished visibility of this

¹The non-Caucasians were composed primarily of Native Americans, but also included some Asians (a small East Indian community was becoming established), but few Blacks.

group was the result of a smaller size and how much was due to social assimilation, such as intermarriage.)

The census data for 1960 and 1970 reflect the high degree of energy development that occurred in the Grants area during the 1950s and 1960s. As seen in Table 4-3, the initiation of energy development during the 1950s had a marked effect on the residential stability of the Grants population. In the 1960 census, 55.1 percent of the community's population had been born in a different state. This was considerably higher than the percentage of the population born outside the state in 1970 (33.3 percent), reflecting Grants's experience with energy development. The energy development of the 1950s introduced an entirely new technology and industry into the area's economy. Few local residents were prepared to acquire energy-related jobs, and companies had to bring in almost all of the personnel they needed. By 1970, energy activity was reduced, and Grants's population was about 1,500 people fewer than in 1960. The presence of the work force from the 1950s and 1960s, the development of local skills, and the downward population trend meant that fewer new in-migrants were arriving during the late 1960s. By 1970, the community had thus gained extensive experience dealing with newcomers and had become a community in which a relatively high proportion of the population did not share a common background and were relatively unfamiliar with one another.

The effects of this pattern of energy growth and decline are also shown in Table 4-3. Residential mobility was particularly high during the 1955 to 1960 period. In 1960, soon after the first big energy development period, only 30.7 percent of the city residents five years of age or older had lived in the same county for five years or more. Less than 50 percent had been living in New Mexico five years previously. In 1970, the drop in in-migration was clearly reflected in the data on residential history: 72.0 percent of city residents five years of age or older had lived in Valencia County for five years or more, and 44.4 percent (compared to only 15.8 percent in 1960) had lived in the

TABLE 4-2

Ethnicity
1960, 1970, 1980

	Grants			Valencia			New Mexico			United States		
	1960	1970	1980	1960	1970	1980	1960	1970	1980	1960	1970	1980
TOTAL	10,274	8,768	11,451	39,085	40,539	60,853	951,083	1,015,998	1,299,968	179,323,175	203,210,158	NA
White	98.3	96.7	81.4	86.6	83.9	71.2	92.1	90.1	75.1	88.57	87.71	NA
Negro	0.4	0.8	0.6	0.3	0.5	0.6	1.8	1.9	1.8	10.52	11.09	NA
Indian	1.2	1.6	1.9	13.0	15.0	13.8	5.9	7.2	8.1	0.29	0.37	NA
Japanese	-	-	-	0.1	0.01		0.1	0.1		0.26	0.29	NA
Chinese	0.1	0.1	0.3	0.1	0.01	0.2	-	0.1	0.5	0.13	0.21	NA
Filipino	-	-	-	0.1	0.01		0	0	0	0.10	0.17	NA
All Other	-	0.8	15.7	0.1	0.6	14.2	-	0.6	14.5	0.12	0.16	NA

Sources: U.S. Department of Commerce, Bureau of the Census, Census of the Population and General Population Characteristics, 1960 and 1970 Censuses.

Note: NA = Not available.

TABLE 4-3

Residential Stability
1960, 1970

Residential Stability	Grants		Valencia County		New Mexico		United States	
	1960	1970	1960	1970	1960	1970	1960	1970
Total Population	10,274	8,768	39,085	40,539	951,023	1,015,998	179,323,175	203,210,158
Percent Born in State of Residence	43.0	61.9	61.9	68.8	51.3	52.4	70.3	68.0
Percent Born in Different State	55.1	33.3	36.3	26.0	45.1	39.4	26.4	26.3
Residence 5 Years Previously								
Total Population, 5 yrs or over	8,511	7,570	32,824	36,089	814,851	919,329		
Same House	15.8	44.4	43.3	59.1	41.6	49.7	49.9	53.0
Different House in U.S.	82.7	51.8	54.8	35.7	55.6	43.0	47.3	40.4
Same County	14.4	27.6	15.1	16.5	25.9	22.0	29.8	23.3
Different County	68.3	24.2	39.7	19.2	29.7	21.0	17.4	17.0
Same State	18.1	11.3	12.9	11.4	7.3	6.8	8.5	8.4
Different State	50.2	12.9	26.8	7.8	22.4	14.2	8.6	8.6
Residence/Work								
All Workers	3,403		10,741	11,731	301,115	333,790	76,852,389	
Work in Co. of Residence	61.8		67.7	68.9	91.3	85.7		75.0
Work Outside Co.	36.3		28.8	24.0	5.1	6.3		18.0
Not Reported	1.9		3.5	7.1	3.6	8.0		7.0

Source: USDC BOC 1970 U.S. Department of Commerce, Bureau of the Census, Tables: 45, 50, 117, 119; USDC BOC 1960 Tables 39, 42, 63, 82, 72, 132.

same house for at least five years. Although data are very scanty, this appears to indicate the energy-related population drop in in-migration and the out-migration of recent rather than longtime residents during the latter part of the 1960s.

This prolonged and intensive exposure to energy development is also reflected in the age distribution of Grants residents. The 1960 and 1970 age pyramids shown in Figure 2-1 are remarkably similar. Both show a relatively high proportion of the population in the prime working ages (25-64), unusual in the relatively small towns of the intermountain West. Although the 1980 age characteristics are not available, this pattern persisted through the 1970s. At the time of the study, employment opportunities were disappearing rapidly. It was not yet clear what this would mean to the overall age distribution of the population. The depressed condition of the national economy prevented rapid reemployment and relocation of those losing their jobs in the uranium or support industries, with the result that out-migration was less marked than expected. (There were some indications that workers were leaving the area to seek jobs elsewhere while their families remained in Grants.)

Grants's history was reflected in the interviews with area residents. Unlike the residents of communities in the study which were experiencing rapid growth for the first time, few people in Grants commented on any change in familiarity among community residents over the study period. In addition, few expressed any sense that the economic base or the basic character of the community had changed during the study period. These changes had already occurred during the 1950s. As a result of this history, uranium development had been incorporated into the community's identity by the beginning of the study period, and the community appeared to have adjusted its image to reflect the importance of uranium development. It proclaimed itself the "Uranium Capital of the World" -- the community's slogan, and uranium, atomic, and nuclear symbols were utilized by a variety of community organizations.

4.4.2 Social Groupings

The principal patterns and bases for social groupings in Grants did not change appreciably over the study period. The forces causing most of the change during the study period had been initiated by the energy-driven growth of the 1950s and 1960s. Prior to energy development, community residence were differentiated primarily on the basis of family name, length of residence, extent of landholding, ethnicity, religion, and political affiliation. As a result of energy development, the criteria for differentiating among community residents were modified, with some of the previously important distinctions losing significance as a result of the justification of longtime residents and newcomers.

As is the case throughout the semiarid West, residents of Grants who had prevailed through the times of poor weather and economic conditions distinguished themselves from the newcomers who had not yet shown their desire and ability to persevere under the adverse conditions of the region. Despite the numerous distinctions area residents made between themselves, survivorship was a strong unifying factor that became even more important with the influx of large numbers of newcomers during the 1950-60 period.

According to area residents, the principal groupings in the area prior to energy development were Native Americans, land grant residents, ranchers (of whom the most influential and powerful were reported to have been Hispanic), farmers, business people, and government officials. Affiliation with a political party was also important. At the time of the study, these groupings, though still distinguishable, were overlain with other distinctions. Three different categories of residents based on longevity and commitment to the community were commonly identified: longtime residents -- those who had grown up in the area; energy workers and other residents who had arrived during the early energy booms and had stayed since then; and newcomers. Newcomers were divided into those who had some commitment to staying in the community, and those who openly tied their presence in the community to their jobs.

As a result of energy development, the criteria for differentiating among residents became more confusing, as the previous patterns of correlation between occupation, wealth, community influence, and ethnic orientation weakened, and the importance of education and vocational or business skills rose.

By 1981, the majority of local adult residents had not grown up in the area or attended local schools. A significant percentage had lived in other regions of the country; many had overseas experience. Aside from a generalized awareness of the Spanish/Anglo dynamics which suffused social relationships throughout New Mexico, distinctions between social groups in Grants were somewhat blurred, though the concepts were more readily acknowledged than in many areas of the intermountain West. Grants residents were accustomed to thinking about the community in terms of differentiated groups. In addition to other factors, the decreasing personal familiarity among all residents of the community reduced residents' ability or interest in being able to categorize or describe by common criteria all residents of the community.

Nevertheless, by 1981, most people in Grants who were active in community affairs still felt that they knew at least representatives from all social groups in the community -- that they knew most residents -- or that they could if they made the effort. Relatively few of the longtime residents interviewed in Grants expressed personal distress about their degree of familiarity with the residents of the community, though some indicated that those who had been adults at the time of the first energy development boom had been distressed as they felt the basic nature of social relationships in the community moving toward the impersonal with the influx of so many newcomers.

An important factor in the research on Grants is that the proportion of residents of the community who had a clear memory of the community during the pregrowth period was quite small at the time of the study. Since energy development had been a prominent feature of the Grants environment for almost thirty years by the time of the study, many of

the longtime residents could not fully recall the community as it had been in the pregrowth period. A high proportion of residents in the community had come as part of the energy growth period and had at least initially been viewed as (and/or considered themselves to be) transients. Consequently, a high proportion of the residents of Grants at the beginning of the study period could at least understand the perspective of the transient lifestyle and were not mystified by those who placed less importance on community affiliation and membership than on occupational or personal mobility.

The conclusion reached by the field research was that the type of change in social groupings being experienced in small agriculturally based communities in the 1970s had occurred in Grants during the 1950s when the prevailing attitudes toward technological development, growth, big business, and government had encouraged greater confidence and less anxiety about the growth process. It also appeared that once the transition had occurred -- in the 1950s and 1960s -- the subsequent boom periods caused little new change, but rather allowed consolidation of the processes that had been initiated during the earlier period.

4.4.3 Activities and Lifestyles

Residents in Grants generally did identify major changes in the types of recreational or work-related activities prevalent in the community during the 1970s as a result of the energy development activities.¹ They did note a continuing difference in the lifestyle and priorities of those directly engaged in energy development and those of the other community residents. Distinguished for their extreme manifestation of the transient lifestyle were the "high-rollers" -- the production uranium miners that earned up to \$60,000 per year in mining wages.

¹As noted below, this observation does not appear to be valid for Native Americans and land grant residents who became actively involved in energy development during the 1970s. For them, lifestyle changes appear to have been pronounced.

Representatives of the human services organization in Grants noted several effects of the underground mining occupation. They felt that underground mining was an inherently stressful occupation which, when combined with the peer group pressures associated with mine workers, tended to encourage heavy drinking and aggressive behavior. In their view, the land grant residents, other Hispanics, and Native Americans were most profoundly affected by participation in the high stress-high wage mining occupation. Culturally unacceptable or destructive behavior was felt to increase, resulting in distress and confusion for both the workers and their families.

Another observation made about the effects of the rapid growth period was that people tended to become overwhelmed and partially obsessed with their work during the first year or two in the community, precisely at the time that they and their families were trying to cope with less than optimal housing conditions and were struggling to integrate themselves into the community. Most of the newcomers that were interviewed indicated that the transition period had been unpleasant -- housing shortages were extreme during the fastest growth period, utilities and other public services were difficult and slow to be obtained, and, particularly for newcomers to New Mexico, the triethnic social organization was difficult to understand and work within. Nevertheless, most residents indicated that once they were prepared to participate in community activities, the community was generally quite receptive, and that there was a sufficiently wide variety of organizations in which to belong that most could find something to suit their interests. Newcomers and businesses were acknowledged to play an important role in community service organizations. They actively promoted the improvement of community services (such as the hospital and medical personnel) and organized efforts to make other newcomers feel more at home.

One of the other changes that occurred in the community was an increased diversification in religious organizations and activities. Residents indicated that prior to energy development, the community had been heavily dominated by the Catholic Church. As a result of the new

population that settled in Grants during the 1960s and 1970s, numerous new churches were established, and existing churches expanded their facilities. Residents attributed to the population growth the continuing viability of the religious schools located in the community.

Several of the residents interviewed who had been in high school in the early 1970s commented that the availability of cultural activities in the community started to improve in the mid-1970s. Prior to this period, they characterized Grants as a recreational wasteland, where anyone seeking entertainment was forced to travel to Albuquerque. They felt that the situation in Grants had improved in large part because of the influx of persons who organized and supported such activities, and in part sheerly because of the population growth of the community.

4.5 Relationship of Change to Energy Development

4.5.1 Political Differentiation

The primary forces acting on the city of Grants during the study period were changes in federal government legislation, changes in state governmental priorities and legislation, and changes due to the response of the community to the demands and opportunities of uranium development. As throughout the western United States during this period, the New Mexico state government became concerned about the ability of communities to respond adequately to the demands placed upon them by energy development. Because of changes in the way in which federal royalty payments were allocated and the imposition of higher state severance taxes on mineral exploitation, state revenues from the development of energy resources in western states increased dramatically during the 1970s. New Mexico was no exception.

As a result, state resources available to assist energy-impacted communities increased dramatically, and state legislatures responded with the establishment of community assistance programs. State government generally became more responsive to the needs of energy development communities. Area residents and state political leaders

attributed much of the change observed in Grants to the interest and political power of two community representatives in the state government, to the population growth, to the increased economic power of the Grants area due to uranium development, and to the increased visibility of the problems facing energy development communities during this period.

The most important change in political structure that occurred during the study period was the establishment of Cibola County. Although most of the primary initiative for this accomplishment was accorded to one of the two state government representatives from the area, it was generally recognized that the rapid population growth in the western portion of Valencia county was an important factor. An essential part of the argument that a new county was needed was that the problems facing the Grants area were substantially different from those being experienced in the eastern portion of the county. For this reason, most knowledgeable community residents felt that energy development was in good part responsible for this change, which was almost uniformly viewed positively by area residents.

Some of the changes in complexity and specialization of governmental functions in Grants during this period could be attributed to national trends, particularly the expansion of federal grant programs which required administration at the local level. However, most of those involved in the operation of local government in Grants felt that the need to respond to the demands of energy development and population growth was directly responsible for many of the observed changes.

4.5.2 Economic Differentiation

Given the importance of the uranium industry to the economy of the Grants area and the fact that the economy showed very little sign of diversification over the study period, it appears that the majority of the observed change in economic structure was due to the direct and indirect effects of energy development. An interesting opportunity to examine this conclusion is presented by the collapse of the uranium

industry. Local residents, calling on their experience during previous slowdowns in the uranium industry, indicated that they anticipated the gains in economic diversification to be largely lost if the employment and income from uranium development was absent from the community for several years. At the time of the study, it was felt that this decline was occurring more slowly in 1981 than anticipated because of the poor national economic conditions. Interestingly, most local residents anticipated that the changes in the economy that had been induced by the uranium development would be transitory -- that they were directly linked to the continuing presence of the economic stimulus of development. These same respondents generally felt that the changes that had occurred in the political structure of the community was more permanent and that the governmental structure was not likely to revert to its previous characteristics even if the community experienced a prolonged lag in further growth.

4.5.3 Social Differentiation

As indicated in Section 4.4, it is particularly difficult to determine the causes of observed changes in the social differentiation of Grants during the study period because of the carry-over of national political and social issues and the continuation of very dynamic social interactions from earlier periods. Nevertheless, it does appear that some of the (relatively slight) increases in cultural and ethnic diversity that occurred in the community during this time were the result of the availability of high-paying jobs in the Grants area.

The availability of high-paying jobs in the energy sector also contributed to the changes observed in the criteria for social distinctions and for group identity. However, because of the presence of energy development activity in the community for over twenty-five years, the specific effects of the energy development that occurred during the 1970s are less than clear.

4.6 Consequences of Differentiation

4.6.1 Political

Community leaders in Grants at both the local and state level responded to the problems associated with energy development by increasing the professionalism, formal structures, and complexity of city and county government. This response was made primarily as a direct effort to provide the mechanisms needed to operate the government on a day-to-day basis as well as to give leaders a sense of control by improving planning and regulatory capabilities.

The actions taken by the area's representatives to the state government were clearly designed to increase the resources available to the community and to increase the authority and power of local decision-makers. They were also designed to encourage local leaders to develop cooperative relationships with other area governments and to work together to address common problems.

While the community did experience severe problems in governmental response, and they probably could have pursued additional opportunities for local initiative more aggressively, the changes made in governmental structure did help the community to respond. The establishment of the position of city administrator in 1976 provided professional guidance on the structuring of the government, as well as technical planning and administrative skills. The establishment of Cibola County was a direct effort to help the county and city respond more effectively and to ensure that the community received its fair share of resources and political attention.

Because the political structure responded, money and grants were received to upgrade schools, sewer, water, roads, and to make other capital improvements. This generated substantial benefits for community residents. Of additional benefit to longtime residents were changes in city administration which enforced more stringent and complex fee

structures and developer requirements. These changes shifted more of the burden of growth onto the developers and the newcomers and away from long-term residents.

An additional consequence of the changes in governmental complexity was the constitution of procedures which placed a heavy emphasis on fairness and equality of treatment. These changes served to keep the system more open and equitable. This was a distinct benefit to the newcomers, who otherwise would have been at an even greater disadvantage relative to longtime residents in terms of access to community resources and power. The changes also served to deflect and/or decrease the jealousies and opportunities for conflict of interest within the city government. Despite these changes, however, residents of the community reported that the system remained relatively closed as a result of the complex decision-making and political affiliation system in the community.

4.6.2 Economic

By the beginning of the study period, most business owners and operators in Grants were experienced with the vagaries of energy development and were therefore somewhat cautious in responding to the forecasts of large and continued development. Nevertheless, by the end of the decade, substantial expansion had occurred in the retail and service sectors of the Grants economy. As discussed previously, the force driving this increase was the income generated by energy development. Interviews with local residents indicated that although they generally valued the small-town nature of Grants and considered that characteristic an important amenity, they placed a premium on the availability of "essential" services (especially health care) and of variety in the retail and service sectors. Consequently, most residents felt that the expansion of economic activity in Grants enabled the community to better meet the needs of area residents and to attract additional newcomers. Most did not feel that Grants's small-town character had been lost.

Business people frequently cited the accessibility of Albuquerque as a factor which inhibited the development of the Grants economy. Nevertheless, most felt that by 1970, area residents possessed the skills as well as the access to capital necessary to initiate or expand their businesses.

An additional ramification of the expansion of the local economy was that area youths who would otherwise have had to leave the area to find employment were able to remain. According to interviews with high school officials, a number of graduates did obtain jobs and remained, but others preferred to leave despite the local opportunities for employment.

4.6.3 Social

The community's high degree of social differentiation at the beginning of the study period had several effects on the community's ability to respond to the development that occurred during the 1970s. First, it meant that community residents were not threatened by, or concerned about, exposure to people with different backgrounds or perspectives. The community had long since learned that it had to deal with multiple interests and cultural characteristics, and that mechanisms for facilitating the interaction and cooperation of the various community groups were essential to the smooth functioning of the community and effective provision of community services. Second, the extensive experience with development and rapid growth that the community had gained during the previous two decades had given them a pragmatic perspective and an ability to identify the important issues associated with rapid community growth. Residents were able to be more realistic about the likely consequences of rapid growth and were somewhat less anxious about the potential of the rapid growth period to destroy the social characteristics and well-being of the community.

Despite these advantages, newcomers found the complexity and differentiation of the community to be a barrier to ready assimilation. Those from outside New Mexico seem to have found it especially difficult to

establish a comfortable relationship with the various groups in the community. These observations suggest that the heightened social diversity and complexity of the community provided an added resilience from the perspective of the community and longtime residents while making it more difficult for newcomers to be assimilated.

4.7 Distribution of Effects

4.7.1 Political

In general, it appears that the most important increase in political differentiation, the establishment of Cibola County, was viewed positively by most community residents. Those benefiting most materially from this change were the local political leaders, who were able to obtain more powerful and important political positions. Local citizens also were thought to have benefited through the improved availability of county governmental services. The somewhat increased formality of governmental operations appeared to enhance equitable treatment of newcomers, who would otherwise have been less likely to have access to decision-makers and resources.

The changes that occurred in the police department of Grants were seen as improving the assurance of equitable treatment of Hispanics (whose conflict with the department had prompted many of the changes) and of others who came into contact with the police on a frequent basis. As indicated above, however, the changes in the police department do not appear to have been directly related to energy development.

Over the study period, especially during the 1974-76 period, initiatives were made to tighten local regulations concerning the more stringent enforcement of land use and zoning regulations. This seems to have benefited the newcomers who were residents in or near these rapidly growing neighborhoods and longtime residents who were concerned about the appearance of the community. The cost of such enforcement was borne by community taxpayers, but the cost of higher quality construction was borne partially by developers and partially by purchasers of the property.

During the peak impact period, decision-makers were burdened with decisions regarding changes in the mechanisms of community governance, with the recruitment and training of new personnel, with the establishment of new policies, and with the seeking of and the administration of grant monies to expand the physical infrastructure of the community. Although few of those interviewed in the study mentioned loss of access to political decision-makers as an important consequence of the rapid growth, the increased load on decision-makers was great enough to indicate that such a loss probably occurred.

This type of increased work load was cited as one of the incentives for the establishment of more formalized and technical procedures in local government operation and in the recruitment of personnel specifically assigned to planning and management. In this way, growth provided improved technical opportunities for administrators. Only a portion of these job holders were longtime residents, though quite a few of the clerical staff (which also increased as a consequence) were.

According to the rather limited data available, newcomers reported feeling excluded from the "real" political process in the community. It therefore appears that the increased formality did not pervade all aspects of local political activity and open the entire process to greater participation by the general public.

4.7.2 Economic

According to the information obtained by this study, local business people and residents as well as newcomers felt that differentiation of the local economy would be to the long-term benefit of most residents and that it would ensure greater economic and social stability in the community over the long run. Although the economy grew substantially during the study period and some new types of businesses were added, residents observed that the area's economy was still largely dependent upon the same economic base as in the past, and hence was as vulnerable to fluctuations as before. This point proved correct when the uranium

industry underwent drastic cutbacks in 1981, and the local economy quickly felt the adverse effects.

Despite the introduction of chain and franchise stores and the establishment of local offices of large energy support businesses, local business owners generally did not have any strong sense that this had resulted in unfair or unmanageable competition. Indeed, a number of local business owners felt that they had some substantial advantages over newcomers in terms of lower overhead costs, well-established clientele, and greater area familiarity. Consequently, most local business owners felt that they had benefited considerably from the increased business opportunities created by the population and income growth precipitated by the energy development activities in the region. Perhaps because of Grants long history of involvement with energy development, local business owners felt that they were relatively knowledgeable about the opportunities of rapid growth cycles but appreciated the risks associated with large and aggressive expansion. They were therefore somewhat circumspect about expanding their business to capture the increase in the market.

Almost without exception, community residents identified the increased availability of goods and services as a benefit that saved them time-consuming trips to Albuquerque. As mentioned above, residents frequently noted their appreciation of the small-town character of Grants, but few indicated they felt this character had been, or was threatened by, the energy development activities of the 1970s.

4.7.3 Social

Because of the existing social characteristics in Grants, relatively little social differentiation occurred during the study period. Area residents were generally accustomed to dealing with people of diverse background, including uranium workers. Therefore, unlike many other communities in the intermountain West, it was the newcomers rather than the longtime residents who were faced with learning to deal with unfamiliar social groups. Although evidence is limited, this may be a reason

that newcomers to the community during the 1970s expressed feelings of isolation and lack of acceptance as well as a certain degree of social confusion and discomfort.

Area social workers indicated that Native Americans, land grant residents and to some extent, Hispanics, experienced social stress as they engaged in economic and social activities which were unfamiliar and dissonant with their cultural values. These difficulties were identified most clearly when these groups were engaged directly in energy sector employment. However, the stress was aggravated by changes in family structure and income, as well as changes in the time and resource utilization patterns to which they were accustomed and which played an essential role in the maintenance of their culture. Because few Native Americans or land grant residents were members of the Grants community, this aspect of the effects of energy development was not pursued in sufficient depth to support further comment here. Nevertheless, it did appear to be an area which warranted closer attention because the problems facing these groups appeared to be profound and threatened their social well-being.

5. CHANGES IN STRATIFICATION

5.1 Introduction

An examination of social stratification focuses specifically on questions of power, decision-making, access to goods and services, and the distribution of resources and opportunities among community residents. Classical definitions of social stratification generally incorporate a concept of an enduring structure and organization in a community or society that results in groups and individuals having at least some degree of unequal access to (and receipt of) things considered valuable and rewarding in that society. Groups in a society might be stratified, for example, in terms of their degree of access to wealth, prestige, educational opportunities, health care, leisure time, and so on.

Consideration of the types of economic and demographic changes occurring in small, isolated communities as a result of energy development suggested that existing stratification systems might be significantly affected by energy-driven growth. If such changes did result, they were expected to be considered particularly important by community residents and likely to constitute an important aspect of the long-term effects of such development on local quality of life and on the manner in which the costs and benefits of growth were distributed among local residents. From a somewhat wider perspective, energy-related growth might also affect the relative access to goods and services, prestige, and power for residents of the growth community compared to other communities in its region.

There are numerous ways of describing an existing stratification system. One approach is to identify those things that are most highly valued by a group or society and then describe the system in terms of the degree to which different actors or groups of actors have, or are denied access to, those things. If income opportunities are most highly

valued, then the community's stratification system would be described in terms of who makes the most money. If education is most highly valued, it would be described in terms of level of educational achievement reached by different groups. If religion is most important, the description would be in terms of membership and status within different religious organizations.

This chapter discusses several aspects of the stratification system in Grants. Major emphasis is given to changes in the nature of political, economic, and social power and prestige and in the bases, patterns, and consequences of their distribution among community residents. An effort is made to determine the relationship of energy development to these changes, but lacking detailed 1980 census data or a sample survey, secondary evidence for this analysis is limited. The discussion is based on community interviews and the secondary data that were available. It focuses on changes that occurred in the nature of political and economic power in the community and in the criteria for access to positions, resources, and status. It considers the changes in the access to resources available to community residents compared to other communities in the region. As in the previous chapter, the discussion of change is followed by an analysis of the relationship between these changes and energy development and an examination of the distribution of those effects among community residents.

5.2 Political Stratification

5.2.1 Changes in the Nature of Political Power

Some notable changes occurred in the nature of political power in Grants over the study period, although the extent of change was less than would probably have occurred had the community not yet experienced the extensive development of the 1950s and 1960s. According to persons active in local government throughout the study period, the scope of governmental power in Grants did not change dramatically during the study period. As indicated in Chapter 4, the major change in political

structure involved the creation of a new county, of which Grants was the county seat and principal community.

Both prior to and during the study period, local political leaders were constrained in their power to obtain revenues by limited local property value and by state statutes that restricted sales tax rates and bonding capacity. The implementation of a statewide program of school funding designed in 1974 to equalize per-student expenditures limited local autonomy over school budget decisions. Local governments did, however, have access to joint powers legislation, which allowed collaboration between governmental units and had in place local statutes concerning land use and zoning. Unlike many small western communities, Grants had a sophisticated political system in which leadership was generally held by persons with long experience and long-term political ambitions. The social and political complexity of the community had resulted in the development of a political process which was based on coalition-building and compromise. This had led local politicians to develop a relatively long-term perspective on political relationships and a habit of avoiding dependence on single issues.

According to interviews with local residents and decision-makers, the nature of political power was not greatly changed as a result of energy development. Community leaders chose to implement their authority in somewhat different ways -- for example, by imposing additional land use and zoning regulations and by enforcing them more stringently -- but the actual scope of their powers was not dramatically changed.

Indeed, most of the significant changes that occurred in governmental power that affected Grants during the 1970s occurred at the state level. State governmental revenues from energy development increased dramatically, and in the mid-1970s, the state legislature took action to increase the state's ability to control development and to assist communities facing difficulties as a result of rapid energy-driven population growth. The establishment of the state Community Assistance

Council (CAC) in 1977 gave the state considerable leverage over local government response to growth-related problems. Through the CAC, the state could (and did) mandate local government cooperation by requiring them to form coalitions when applying for assistance funds and directed the focus of community impact response by specifying the types of projects that would qualify for state assistance funds. Although this could have resulted in a perceived loss of community control, most of the Grants residents who were interviewed felt that the influential role of Grants's state government representatives in the development of the state programs meant that Grants, in fact, had greater rather than lesser access to power.

Overall, because of their previous experience with development, the complex political structure of local government in New Mexico, and the lack of substantial increase in local tax base, the nature of political power in Grants underwent relatively little change during the study period.

5.2.2 Changes in Access to Political Positions

Political party affiliation had historically been a deciding factor in the selection of leaders within the Grants community. Local political power had shifted between the Democratic and Republican parties several times. As discussed previously, access to important political positions in the community was highly dependent upon successful participation in a complex political network. This effectively limited access to local political power to longtime residents and to persons who had been active in party politics for an extensive period. It is not clear to what extent residents from other areas of New Mexico could transfer into the local political system, but it is reasonably clear that out-of-state newcomers had a difficult time becoming sufficiently integrated to acquire positions of any political importance.

Until the end of the study period, when Cibola County was created, access to county government was shared between residents of the Grants

area and residents of the eastern portion of the county. Although Grants residents were represented on the county government, the creation of the new county in 1981 was expected to substantially increase the opportunities for local political leaders to hold positions of power at a county level. At the time of the study, persons had been appointed to the county governmental positions by the governor, with elections to follow. In most cases, residents had not been surprised by the appointments, which were seen to reflect the recipients' participation in the statewide political network.

Even at the beginning of the study period, agricultural interests did not dominate the political power structure at either the community or county level, although they were reportedly still well-represented behind the scenes. Energy company personnel had historically not sought political leadership positions in the county or municipal government, a pattern which was maintained throughout the study period. As a result, though some of the faces changed over the ten-year period of the study, the type of persons holding positions of political power changed relatively little. Near the end of the study period, several new, young faces emerged from the political ranks to compete for leadership positions. Although this affected the specifics of local politics, it did not represent a change in the process or indicate modification of the criteria by which leadership was distributed.

During the study period, a change did occur in the composition of the school board. Native Americans pressed to obtain representation on the board and succeeded in having a Native American appointed to a position that became vacant. Representation on the board by this cultural group signified a major change from the historical pattern, potentially providing a substantial increment of power to the Native American community. It is not evident, however, that this change was related to energy development.

Overall, there was a general concensus that the availability of public resources increased over the course of the study period but that

there had been periods of reduced availability as the community struggled to stretch their limited resources to meet the needs of the growing population. New Mexico was reported to have a tradition of low assessed valuation and millage rates. As a consequence, communities like Grants, which were primarily dependent upon taxation of residential property and of gross receipts were constrained by lack of funds. In addition, the structure of the taxes imposed upon uranium activities and the location of both mines and mills outside the municipal boundaries limited the tax implications of the energy growth for both the county and municipality.

Grants had historically been a relatively poor municipality, and its residents generally felt that it remained so throughout the study period. Local decision-makers repeatedly stressed the importance of the state assistance funds to the ability of the community to expand or improve water, sewage, and road systems and to cope with the demands of rapid growth. Unlike communities in some states, where a high assessed value on energy facilities or state revenue-sharing programs greatly increased per capita revenues, neither Grants nor Valencia County became wealthy as a consequence of the uranium development activities, although assessed valuation did increase substantially.¹ Nevertheless, the increase in publicly funded resources over the study period was relatively modest. Any significant rise in the standard of services was due primarily to the community's ability to obtain resources from the state and to increased sales tax and property tax revenues. In large part these increases were energy-related.

During the study period, the most significant improvements in public facilities included: (1) water and sewer systems, (2) local roads, (3) expansion of a branch of the state university in Grants, and (4) construction of several new school buildings.

Improvements in the water, sewer, and road systems were a direct result of the state community assistance funds that Grants obtained dur-

¹For example, the assessed valuation of the Grants school district was \$108.7 million in 1980. The Jackpile Mine (Anaconda) alone contributed an assessed value of over \$16 million.

ing the 1970s. As a result of these improvements, residents generally reported that the availability and quality of these systems were increased.

In 1978, the Grants Branch of the State University expanded significantly and moved into a new \$1.75 million facility. The expansion decision was supported by the state and was generally viewed as the result of a collaboration between community residents, local companies, and state government. The increased population in western Valencia County along with the willingness of area uranium mining operations to participate in the program and hire its graduates were reportedly important in this expansion. The college was considered an important asset for the community, and its presence was generally felt to have substantially increased local residents' access to educational opportunities. Several of those interviewed pointed out the long-term importance that this improved access to education had for the upward mobility of community youth.

Interviews with public service providers emphasized the effort that had been made during the 1970s to expand services, identify target populations, and deliver services to those needing them. In large part, this reflected a change in federal and state programs and priorities, although, as with the human services umbrella group (West Valencia Human Resources, Inc.), a considerable amount of local initiative was also involved.¹ Nevertheless, according to all accounts, Grants went through a period of substantial shortages in classrooms (temporary classrooms were used), water, and sewage treatment and suffered the

¹West Valencia Human Resources, Inc. is a non-profit organization established in 1977 under a grant from the State Energy Resources Board. It is the only facility in the state that incorporates all social services within one organization. In 1980, the organization had a staff of seventeen. Their budget in 1980 was about \$400,000, derived primarily from state and federal sources supplemented by county and city funds and contributions from the mining companies. (James Montgomery 1981.)

consequences of poorly maintained roads for much of the early portion of the study period. The adverse effects of rapid growth were considered particularly severe in Grants because it had little excess capacity at the beginning of the study period despite its previous periods of rapid growth. Most residents, however, indicate that longtime residents were accustomed to low levels of service and had not anticipated great improvement as a result of the growth.

Given the multiethnic character of the community, it would have been very surprising not to have found criticism of the distribution of public services. Such complaints were fairly common in Grants during the impact period, but few of them were directed at energy resource people or at the types of shortages that resulted from growth. Rather, they appeared to have been tied to longstanding sensitivities and concerns and were most frequently directed by longtime residents at other longtime residents.

Without a more in-depth examination of the patterns of local issues and distribution of community resources to various resident groups than was possible in this study, no definitive conclusions can be drawn about the subtle effects of growth on the distribution of community resources among residents, but it is reasonably clear that all members of the community suffered from the shortages of community facilities during the most rapid growth periods. Because of their geographic location within the community and their proportionately greater need for housing and public utilities when availability was very limited, newcomers bore the brunt of some of the worst shortages. In general, however, all community residents had access to the improved community facilities that were in place by the end of the study period -- the new schools, the improved roads, the community college, the improved efficiency in local government, and the improved access to county government services.

5.3 Changes in Economic Stratification

Because uranium mining and milling was central to Grants's economy for over fifteen years, energy companies were established as an import-

ant locus of economic power in the community by the beginning of the study period. The relative importance of the energy sector increased or declined in tandem with the market conditions for uranium.

One of the important changes that took place over the twenty-five-year period of uranium development was the consolidation of uranium holdings and operations in the hands of large, multinational corporations. During the initial phases of uranium development, numerous smaller companies had been involved, and local area residents were frequent participants in development activities. With each of the cycles of the uranium market, ownership had been progressively transferred from small-holders to larger corporations. During the 1970s cycle, most of the actors were large corporations. This progression had left a number of area residents with substantial economic gains as they sold out their interest in the minerals, water, and operations. According to area residents, this had the effect of increasing the wealth of a relatively small number of landholders in the Grants area who were primarily longtime residents.

Much of the uranium was located on land grant, reservation, or federal land. An important consequence of this was the considerable economic leverage it gave to the land grant residents and Native Americans, enabling them to stipulate conditions for the development of the resource. In many cases, the stipulations involved both royalty payments and preferential hiring and training agreements.

Overall, it was felt that the greatest proportion of direct benefits from development had accrued to those groups which held or acquired land and rights to water and minerals -- primarily longtime residents from three groups: ranchers (both Hispanic and Anglo), land grant residents and Native Americans, and the energy corporations -- and the state and federal governments that collected royalty and tax payments from the developer.

Due to the nature of the agreements with the energy companies (royalty payments, employment, and facilities), the land grant residents and Native Americans were most severely affected by the abrupt downturn in the uranium market during the early 1980s, since they, more than any of the other groups, were committed to the geographic area and were less able to move elsewhere to seek other opportunities. At this time of the study, it was not clear what their choices and decision would be.

According to local residents, the most important effect of the large corporations on the economic stratification system of the community was their power of employment. The uranium companies were by far the largest employer in the Grants area. (On the reservations and land grants, this dominance of employment was even more pronounced.) An important impact of the recent growth in the mining and milling activity on the stratification system in Grants grew out of the characteristics of employment access to large corporations and the comparatively high wages that young and relatively untrained workers could attain in uranium industry jobs. Table 5-1 shows the per-worker wage rates by industrial sector in Valencia County and New Mexico from 1967 to 1979. The high and escalating wages in the mining sector are apparent. (The influence of the more urban employment structure of eastern Valencia County is reflected in this table; there was very limited manufacturing in western Valencia County.)

Access to this type of employment was viewed as an important long-term modification of the stratification processes in the community. It appears that the large scale of the corporations involved in the development of the Grants area resources enhanced the opportunities for minority groups to obtain high-paying jobs and to enter into an employment network with long-term opportunities for upward mobility. Because the employers were primarily large public corporations with governmental contracts and many of the jobs were unionized, employment practices were subject to federal equal employment opportunity regulations and to union pressures for job security and seniority benefits. It was generally

TABLE 5-1

Per Worker Wage Rate by Industrial Sector
(\$000)

Industry	Valencia						Percent Change 1970-1979	New Mexico						Percent Change 1970-1979
	1967	1970	1972	1975	1977	1979		1967	1970	1972	1975	1977	1979	
Agriculture	\$4,651	\$5,023	\$7,415	\$8,756	\$7,857	\$15,798	214.5%	\$5,895	\$9,552	\$10,860	\$16,330	\$11,911	\$19,057	99.5
Mining	8,577	8,394	9,699	14,385	20,734	25,829	207.7	8,397	8,813	10,630	15,400	19,920	24,806	181.5
Construction	7,195	8,682	11,369	13,538	16,819	18,864	117.3	7,686	9,160	9,807	12,240	14,280	15,873	73.3
Manufacturing	6,719	5,584	5,991	7,406	10,704	12,904	131.1	6,920	7,261	7,625	9,660	11,760	14,562	100.0
TCPU	8,439	10,430	12,001	15,519	19,243	23,994	130.0	7,487	9,154	10,796	14,100	17,480	20,956	128.9
Trade	5,000	5,827	6,348	7,250	8,187	9,688	66.3	5,327	6,113	6,662	8,150	9,000	10,820	77.0
FIRE	6,454	8,067	7,886	8,828	11,038	13,073	62.1	7,218	7,978	8,884	9,440	12,230	14,339	79.7
Services	4,644	5,091	4,757	6,290	7,892	10,014	96.7	5,836	6,934	7,361	8,880	10,200	12,332	77.9
Government	4,731	5,121	5,854	7,005	8,202	9,347	82.5	5,592	6,842	7,734	9,610	11,180	12,921	88.9
(Non-Farm Prop)	8,016	7,995	8,516	8,892	10,682	13,467	68.4	8,081	8,428	9,004	9,360	11,800	14,213	68.6
TOTAL	5,029	5,707	6,289	8,285	10,788	13,636	138.9	5,525	6,612	7,325	9,240	10,701	12,885	94.9

Source: Derived by Mountain West Research from U.S. Department of Commerce, Bureau of Economic Analysis figures.

agreed that the high-paying mining jobs were open to all groups and that special training and hiring efforts were made to increase the access for land grant and reservation residents.

The size and diversity of the large corporations was generally viewed by area residents as a benefit. It was felt to provide not only greater stability and security within the uranium market (a somewhat false perception, as was demonstrated during 1981) but also to provide access to a wide range of jobs through movement within the corporation. The opportunity to gain seniority within a large corporation and to move up within the corporate hierarchy was viewed as an important consequence of the changing corporate structure of the uranium industry. Among those interviewed, these aspects were mentioned most frequently by Hispanics. Women also appeared to have benefited from these characteristics of the change in employment structure in the community, though no data are available to document these perceptions.

By the time of the study, the community had had extensive experience adjusting to the influence of high energy sector wages which lowered the comparative economic desirability of jobs in other sectors. As has been noted in other communities experiencing energy-related growth, public sector employment was particularly hard-hit, experiencing persistent difficulty in recruiting and maintaining qualified employees. Because mining was still generally a male occupation, this effect was most pronounced for employers in other male-dominated occupations -- law enforcement, for example.

The net effect of development, while it was ongoing, was to improve the relative economic position of minority groups and some groups of women in Grants. The positive impact on minority groups was most visible and resulted primarily from the high-paying jobs available at the mines. Minority group members (particularly land grant residents and Native Americans) were able to make more money than they ever had before. Unfortunately, this higher earning power was not without its conflicts, since it brought members of these groups into situations of cultural dilemma.

The other important area of economic opportunity in Grants during the rapid growth period was in real estate. In this area, it appears that the majority of the participants were longtime residents who were already in positions of relative economic power. It is worth noting, however, that the cyclic nature of the development carried substantial risk for speculation in land and real estate and that large sums of money were lost as well as made by those participating in these activities.

5.4 Changes in Social Stratification

Based on community observations and interviews with key informants in Grants, it appeared that no important forces for change in the social stratification system were introduced during the study period, but that the energy development activities extended those that had been initiated in the 1950s and 1960s. As already noted, changes in the value of land and mineral rights, changes in the relative wage structure, and access to high-paying jobs continued to be important during the study period, but these were characteristics that had been introduced and emphasized during the earlier energy growth periods, and were, therefore, not new.

As the community grew larger and the operation of government and business became more complex, technical expertise in management and planning took on an increased value and to some extent raised the social standing of relatively young professionals who had these skills. However, the importance of political influence and knowledge -- of participation in the local and state political networks -- somewhat limited this effect.

Social status and prestige in the community continued to be based on a combination of wealth, political power, ethnicity, and family name. Using these criteria, the business, professional, and management groups and those who traced their ancestry to old-time families in the area still occupied positions of high standing in the community.

One of the important consequences of energy development was that it exposed Grants much more actively to state and national influences and

reduced its isolation, both physically and psychologically. As a result, the community became more subject to the criteria and bases for social stratification prevailing in the state and the country than it had been previously. As everywhere in the United States during the 1950-80 period, the rapid changes in transportation and communication played an extremely important role that is difficult to specify clearly.

5.5 Summary

The impacts of energy development on the local stratification system were most evident in the economic sector and in the changes that took place in the relative accessibility of opportunities for education, employment, and exposure to a wider range of social and political contacts. The local availability of high-paying jobs which carried some opportunity for occupational advancement as well as higher income was a direct consequence of energy growth. In general, residents agreed that these opportunities were open to all community residents, though some groups in the community were less prepared or inclined to compete for them than others.

The increasing population and income in the community were important factors in expanding local educational and cultural resources. The establishment (in 1968) and expansion of the Grants branch of the State University System was felt to significantly improve local access to higher education, one of the important long-term determinants of social and economic status. The increased population and the high level of economic activity raised the political visibility of Grants, improved contact with the state government, was influential in the establishment of Cibola County, and was an important element in improving the political visibility and power of the Native Americans and land grant residents of the region.

Those who benefited from energy growth were those who were in a position to take advantage of these opportunities without incurring countervailing costs. At the time of the study, it was not clear whether

the land grant and reservation residents evaluated their participation in energy development as advantageous or harmful.

Residents on fixed incomes tend to lose relative status and buying power under energy growth conditions, a change which is exacerbated by the effects of high demand and high wages on the price of housing and some other goods and services. Because energy development did not result in greatly increased revenue flows to local government, area property owners did not benefit from reduced property tax rates as did residents in some communities where high-value development substantially increased the tax base.

Despite its duration and extent, energy development in the Grants area modified only some relatively minor aspects of the overall stratification system. Energy company interests did not come to dominate community politics, though energy-related employment and income came to play a critical role in the economic health of the region. In part because many of the recent in-migrants were residents of New Mexico, the dynamics of the triethnic society continued to dominate social and political activities in the area. Neither mine workers, corporate executives, nor union officials superseded area ranchers and businessmen as the decision-makers for political and community affairs.

Nevertheless, energy growth caused substantial change in the motivation and orientation of community residents. It greatly increased the number and percentage of residents who were living in Grants primarily because of their jobs and whose ties to the community were less strong than their ties to their occupation. It greatly increased the number of residents who were unfamiliar with the complexity of the stratification system of the community and who were less interested in maintaining the established distinctions among the different community groups than were many of the longtime residents. Energy development also greatly increased the number of residents who were neither participants in, nor careful observers of, local political activities. Finally, it increased

the diversity of the community, adding new groups to an already complex social system.

In most cases, a link between these changes and energy development can be established, but full responsibility for the change can seldom be attributed to energy development alone. The changes observed in Grants during the study period generally follow national trends. As in a number of other communities in the intermountain West that experienced large-scale energy development during the 1970s, one of the most important effects on the stratification system in Grants appears to have been an increase in the exposure of the community to national influences. This occurred in the political, economic, and social spheres, and involved both longtime residents and newcomers.

L. Related to community
changes

and development and regarding how specific techniques might be applied and in energy development as advantages or harmful.

The 1970s and 1980s brought about significant changes in the community, including the 1970s energy boom and the 1980s energy bust. In the 1970s, energy development brought a significant influx of people to the area, and energy companies brought with them a significant amount of money. This influx of people and money led to significant changes in the community, including the construction of new houses, the opening of new businesses, and the creation of new jobs.

Despite its duration and magnitude, the energy boom and bust only partially affected only some relatively minor aspects of the overall socialization system. Energy company interests did not force the dominance of community policies, though energy-related employment and income were to play a critical role in the economic health of the region. In part because many of the recent inhabitants were residents of the federal, the dynamics of the national society continued to dominate social and political activities in the area. However, while economic opportunities, not social policies, superseded other concerns, the disappearance of the decision-makers for political and community affairs.

Nevertheless, energy growth caused substantial change in the organization and socialization of community residents. In general, however, the number and percentage of residents who were living in Grants primarily because of their jobs and whose ties to the community were less strong than those ties to their occupation. It greatly increased the number of residents who were unfamiliar with the complexity of the socialization system of the community and who were less interested in maintaining the established distinctions among the different community groups than were many of the longtime residents. Energy development also greatly increased the number of residents who were more or less participants in, more or less aware of, local political activities. Finally, it increased

6. CHANGES IN EXTRA-LOCAL LINKAGES

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6.1 Introduction

The social changes that have occurred in recent years in American society have resulted in "an organizational structure of rural society that is increasingly controlled by forces that are located outside the local community" (Albrecht 1981). The increasing centralization of control both within organizations and in networks of organizations has meant less control by the communities themselves.

Bradshaw and Blakely (1979) have noted that when rural areas are drawn into interdependent relationships, four important organizational changes occur which can affect local residents and decision-makers:

- 1) Rural governments become more tied to larger and larger social units such as state and federal governments.
- 2) Rural governments require more steps to get things done, and more complex paths of influence are developed.
- 3) Actions themselves become increasingly complicated, involving coordination and planning rather than simply a transfer of funds or provision of a service.
- 4) More complex issues require consideration over an increasingly long span of time.

It is important to recognize that these types of changes have been pervasive in our society for some time and are not a direct function of the energy-related growth that has been occurring in what have typically been somewhat isolated rural communities. For these reasons, the changes noted in this chapter would in all probability have occurred eventually even with no energy development activity. However, it appears from the research that the recent energy growth has accelerated these important processes of change. An important factor in this acceleration has been the opening of the community to the more direct forces of the larger society, thus reducing its isolation.

6.2 Changes in Political Linkages

Like many communities in western New Mexico and throughout the intermountain West, Grants was surrounded by land that was owned by the federal government, Native American tribes, or Spanish land grant holders. Consequently, the presence of the federal government and the tribal governments was very evident during the periods of resource development in the San Juan Basin. The National Environmental Policy Act (NEPA) of 1969 substantially changed the role of the federal government in resource development activities in the West, increasing the visibility of the decision-making process.

Partly in response to local needs and pressures, and partly in response to national trends, state government also became more evident during the 1970s. A state planning department was formed, and the community assistance council was established. In 1974, the state instituted a new program of school financing which relied more heavily on the state to collect and redistribute funds for public education at all levels. In 1978, the State University System substantially expanded the Grants branch and allocated considerable resources for the construction of new facilities. The activities and opportunities for organizations such as the regional councils of governments (COGs) increased as additional federal and state monies were available for allocation to local governments.

There is some evidence that Grants was quite effective in attracting outside support -- especially from the state community assistance council, the primary state mechanism for assisting energy development-impacted communities. According to interviews with community political leaders, Grants benefited substantially by having excellent representation at the state level. The community's elected officials not only maintained close and direct ties with the community, they also obtained sufficient seniority and power at the state level to influence both general policies and specific resource allocation decisions. The sponsor of the legislation which established the Community Assistance Council,

an influential council member, was from Grants, as was the sponsor of the legislative action which created Cibola County. It was generally recognized that the establishment of Cibola County occurred as quickly as it did only because it was promoted so strongly by one of the senior members of the state house of representatives.

There is little indication that the particular linkages to the state were altered as a result of energy development, but it does appear that the use of the linkages changed. The increased population in the community along with the increased contributions to state revenues (from severance taxes, royalties, and income and sales taxes) gave the area an increased importance at the state level. This appeared to work to the advantage of both the state representatives from the community and the community itself. Because energy-related impact was a recognized problem during the 1970s¹ and because the state was receiving energy development-created revenues, communities like Grants actually had an easier time obtaining assistance than other communities with similar problems not related to energy development.

It should be noted that both state and federal governments throughout the United States were establishing revenue sharing, grant, and loan programs during the 1960s and 1970s. During the 1970s, there was also a strong national movement for more comprehensive and effective land use planning. This was reflected at the state level throughout the intermountain West as states pushed local governments to institute planning and zoning procedures to prevent the imposition of federal or state regulations on local areas. The appearance of such programs in Grants during this period can therefore not be attributed specifically to energy development. This pattern of "senior" government activities, enhanced by the special programs that were developed to assist energy-

¹The state sponsored a two-day conference on problems created by energy-related growth in 1974. The conference was held in Grants. In 1975 and 1976, the state also sponsored major studies to identify energy-impacted areas and to delineate the problems in human service provision that they faced.

impacted communities, placed a premium on persons who had the knowledge, contacts, and skills to write grant proposals and deal effectively with the administrators of these programs.

As mentioned previously, Grants had an effective link to the policy-makers in the state government through its elected state representatives. In other areas of state liaison, however, there were indications that Grants was less effective. The community did not participate actively in their regional COG (which was itself not very active).

6.3 Changes in Economic Linkages

A number of important changes occurred in the economic sector of Grants during the impact period that are reflected in increased linkages to the greater national economy. One of the most important was the continuation of the transfer of ownership and control of the uranium resources in the area from small, frequently local to large, extra-local ownership. This process had been under way since the 1950s when the uranium development first occurred. By the end of the study period, it was nearly complete. As indicated previously, many of the area residents and political leaders had expected this shift to have an important stabilizing effect on the area economy, since they believed that the larger companies would be more resilient to fluctuations in the market. It does not appear that this was the case. Indeed, it appeared that multinational companies which had established offices in Grants to provide support services to the uranium industry were likely to shut down local offices and move elsewhere relatively early in a down cycle. Because they had little stake in the community and frequently had alternative opportunities elsewhere, they appeared less likely than locally based companies to try to weather the storm in the local area. This is not to say that the availability of the large resource base of the multinational corporations was not important to the sequence of development of mineral resources. The permit requirements and time frame for resource development that emerged during the 1970s made increasing demands for extensive up-front financing.

Of significant interest was the increase in extra-local control over the retail, trade, finance, and service sectors in Grants during the impact period. All levels of the local economy felt the influx of regional, state, and national operations. Because of Grants's earlier experience with rapid growth and its tourist activity, a number of such businesses were present in the community at the beginning of the study period. During the 1970s, the town increased its finance, lodging, restaurant, and retail sectors, and a new shopping center was built in which a number of such enterprises were located. Many of these businesses retained locals at the management level, while others imported their management personnel from outside the area, hiring locals for lower-level positions. Interviews in the community indicated that area realtors and businesspeople were influential in putting such development projects together, although much of the financing was obtained from outside the community.

From the point of view of the consumer, the increased presence of chain and franchise operations was positive because it increased variety, frequently provided lower-priced goods, and increased competition. A market basket survey conducted for this study indicated that food prices in Grants were comparable with those in Billings, Montana, a regional center not considered impacted by rapid growth. No comparable data for other New Mexico communities were available.

To some extent, the ethnic affiliation of many of the participants in the Grants economy was attributed with the ability of local businesses to continue to compete effectively during the growth period. Until late 1979, business expansion had occurred so rapidly that most proprietors indicated that they had had difficulty keeping up with demand. The long-term impacts of the bust cycle were not yet manifest at the time of the study, so it was not possible to determine whether local businesses or those with extra-local ties would compete more effectively during the tight economic conditions that were anticipated over the next several years.

Because the Grants portion of Valencia County accounted for only about 40 percent of the total county population, the Bureau of Economic Analysis (BEA) data are not reliable for examining changes in the economic structure in the community over the study period. Local reports indicate, however, that Grants became heavily dominated by mining sector employment. It was generally thought that most of the expansion that occurred in the service and trade sectors was dependent upon the population and income generated by the uranium activities. From this perspective, it does not appear that the economy of Grants diversified its economic base during the study period, although the number and types of businesses and jobs did increase. It is this type of linked and dependent expansion that creates the potential for such profound bust conditions in energy resource communities. The leadership in Grants recognized this problem and were making efforts to attract nonenergy-related businesses to the community. Grants's relatively isolated location and the aggressive competition created by communities like Albuquerque and its suburbs made this task especially difficult.

6.4 Changes in Social Linkages

Unlike many other communities in the West which were impacted by large energy development projects, Grants experienced relatively modest changes in the heterogeneity of the population during the growth period of the 1970s. As has been noted previously, this was due to the heterogeneity of the existing population rather than to the characteristics of the in-migrants.

As a result of the diversity already present in the community at the start of the study period and the area's previous experience with large-scale development, residents of the community exhibited a relatively dense network of social linkages outside the community. As a result, the introduction of newcomers with extensive outside ties created little qualitative change in the pattern of social relationships in Grants over the study period. It was noted, however, that the diversity of the community did continue to increase and that additional organizations with

outside ties were established during the study period. This increase included an expansion in the number and type of churches represented in the community, as well as the emergence of special interest groups.

6.5 Relationship of Change to Energy Development

Important changes in the extent of linkages to extra-local organizations and entities were noted in Grants during the study period. Although many of these changes appeared to be directly related to the energy development activities, many were also closely related to changes that were occurring throughout the country during this period. It is important to keep the historical context of the study period in mind when interpreting the changes that were observed in Grants during the 1970s. This is particularly true when examining the changes in linkages to the greater society. During the 1970s, the role of the federal and state government in regulation of development of all types increased substantially, and federal and state support/social programs were established which greatly increased the presence of senior governmental programs and personnel in local communities.

The changes that occurred in economic linkages were more directly related to energy development, as exhibited by their reduction as energy-related employment declined during the latter part of the study period. Among the important changes that were noted in this area were: (1) the culmination of the process of consolidation of uranium development activities within large, multinational firms, (2) significant increases in local real estate, financial, service, and trade sector activities, many of which were extensions of establishments whose head offices were located outside the community, and (3) a more dynamic exchange between Grants and Albuquerque than had been evident previously. Prior to the study period, Grants was reported to have been a passive recipient of Albuquerque-based economic initiatives and resources. During the study period, Grants's residents took a more active, entrepreneurial role. Some of the financial activities were relocated to Grants

from Albuquerque during this period, giving local residents greater access and opportunity for participation. The same was true for real estate activities.

Few important changes in extra-local linkages in the social area were noted. In large part, this was due to the characteristics of the existing social patterns, to the diversity in the community as a result of previous energy development activities, and to the basic character of the Grants community.

200 million dollars had been invested in the Grants community, and the community, as well as the outcome of special interest, was

seen as the most significant development in Grants during the period, and the mobilizations and the new firms created by these new firms to produce and to market the oil and gas resources became the primary and most significant economic development in the community. While many of these oil and gas related firms were owned by energy development companies, many were also closely aligned with firms that were producing chemicals for the energy industry that were also important to keep the historical context of the study period in mind when interpreting the changes that were observed in Grants during the 1970s. This is particularly important considering the changes that occurred to the greater society. During the 1970s, the role of the federal and state government in regulation of development of oil and gas resources substantially, and federal oil and gas regulatory agencies were established which greatly increased the powers of energy governmental programs and personnel in both communities.

The changes that occurred in economic linkages were most directly related to energy development, as evidenced by new industries or energy-related employment facilities that were added to the study period. Among the important changes that were noted in this area were (1) the colonization of the process of consolidation of energy development activities within large, multinational firms, (2) significant increases in local coal mining, financial, service, and trade type activities, many of which were extensions of establishments whose main offices were located outside the community, and (3) a more dramatic change between Grants and Albuquerque than had been evident previously. Prior to the study period, Grants was reported to have been a passive recipient of Albuquerque-based economic linkages and resources, but during the study period, Grants's economic linkages with Albuquerque increased their role. Some of the financial activities were relocated to Grants

7. CHANGES IN INTEGRATION

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7.1 Introduction

The concept of integration is central to the study of communities and community change. Community integration has been defined in many ways, several of which have a highly normative tone. For the purposes of this study, integration is defined as the process by which the relationships and actions of people in a community are coordinated and interconnected. Integration thus requires communication and results in internal relationships and collaboration. As with the other social processes addressed in the report (differentiation, stratification, and extra-local linkages), community integration is complex and multidimensional.

One of the functions of a community is to take positive action to provide facilities and services for its residents. Another is to provide a forum for resolution of community-based conflicts among residents and to provide a "sense of community" and a basis for personal orientation and affiliation. It is commonly assumed that the more integrated a community is, the more cohesive it is and the greater the well-being of the majority of community members. High integration implies efficiency in resource utilization because of increased coordination and reduced redundant or cross-purpose effort. It also implies a relatively high degree of community identification and affiliation.

Nevertheless, very high integration can also have negative consequences. It can cause, or reflect, a degree of conformity or similarity which is personally inhibiting and/or stifling, and which may limit the flexibility and adaptability of the community. In addition, it can create such strong boundaries that the incorporation of newcomers is difficult and painful. Particularly in the West, there is a tension in the implicit trade-off between individualism/self-sufficiency and community integration. The maintenance of differences in values, modes

of communication, and decision-making processes (cultural identity) of particular cultural groups (Hispanics, Native Americans from different tribes, Blacks, French Canadians, and others) appears to be in conflict with the attainment of high community integration (though the ability of such diverse groups to manage their differences and devise mechanisms to allow effective decision-making can be seen as a manifestation of integration). Consequently, although an increase in integration has some positive consequences, and, to a point, can be considered beneficial to the community as a whole, it also can have some adverse consequences which should not be overlooked.

Energy growth and the rapid influx of new people and new interests can affect the integration of a community in a number of ways. Temporarily, at least, it clearly has the potential for reducing several aspects of community integration, since some time is required to establish communication and to integrate the newcomers into the political, economic, and social activities of the community. The extent of change clearly depends upon the state of the community prior to growth, the characteristics of the newcomers, and the manner of community and corporate response. Energy growth and the influx of newcomers can provide an impetus for increased integration in some communities by making the need for integration more evident and by making the resources for effective response more available.

Grants is a community which has traditionally had to cope with a variety of different cultural groups. As indicated throughout this report, by the beginning of the study period Grants already demonstrated a complex system by which the various political, economic, and social interests of the different groups could be expressed and accommodated. Although racial and cultural tensions did exist in Grants, the community was neither dominated by a single powerful group nor paralyzed by persistent conflict and disagreement between groups. It appears that the community had long since come to terms with the need for compromise and pragmatism in the establishment of public policies and social relationships. In addition, because of its history of diversity, residents were not faced with a dramatic transformation of their community from one of

social and political homogeneity and tight integration to one of multiple interests and lifestyles. For this reason, the anticipation of rapid and extensive growth did not hold the specter of social disorganization and radical transformation of social relationships for Grants residents as it has for residents of more tightly knit communities elsewhere in the region.

7.2 Changes in Political Integration

The political processes in Grants at the beginning of the study period were complex, reflecting a long-standing process of negotiation and interaction between the various political interests in western Valencia County. Although Grants was represented on the county government, the fact that western Valencia County accounted for less than half of the total county population and the location of the county seat in the eastern portion of the county reduced the intensity of interaction between municipal and county governments. The relatively low integration of Grants into county or regional governmental activities was also evident in the community's limited participation in the regional Council of Governments. The community seemed to focus more on intercommunity relationships and the establishment of effective linkages to state government.

At the beginning of the study period, Grants had effective cooperative arrangements with the neighboring town of Milan. This cooperative relationship continued throughout the study period, enhanced by the availability of state impact funds for joint water, sewer, and road programs. Both prior to and throughout the study period, the city of Grants also had an effective collaborative relationship with the county sheriff's department and with the state police, sharing a jail facility and other cooperative functions.

One apparent consequence of the long-term need for negotiation between the political parties and ethnic groups in Grants was a political system which was complex and which required long-term participation in

order to achieve positions of authority and leadership. For some newcomers, this was viewed as an obstacle to political intergration, since their time horizon was relatively short. The success of other newcomers in working their way into the system indicates that newcomers were not differentially excluded from participation in the system except, perhaps, by their own perceptions. Nevertheless, these perceptions were apparently quite powerful and the complexity of the system quite intimidating to many newcomers. Newcomers interviewed during the rapid growth period frequently reported feeling unwelcome and isolated from the political activities of the community.

Overall, very little change was noted in the character or degree of community political integration over the study period. What changes did occur did not appear to affect the overall political system or produce a major shift in the extent of political cooperation or coordination. As noted in previous chapters, more formal procedures were instituted in a number of municipal governmental functions to allow the community government to operate more efficiently, but most participants felt that the overall character of the political processes in Grants was relatively unaffected by the changes that occurred during the 1970s.

The fact that was stressed by community officials and residents alike was that the community entered the 1970 growth period relatively well-prepared to respond. Political leaders were well-acquainted with the need to examine the long-term political and social consequences of policies and programs and to follow a process which allowed compromise and cooperation. For this reason, the influx of many newcomers did not require a fundamental change in the mechanisms or processes of government. It appears that the pressures of responding to the very rapid growth of the 1970s actually encouraged the community leaders to cooperate more fully than before because it was evident that an inability to make decisions would have severe adverse consequences for all residents of the community.

7.3 Changes in Economic Integration

Throughout the study period, the economic and political leadership of the community overlapped considerably. The changes that occurred in the economic and business sectors during the impact period were reflected in the economic leadership of the community, though the changes in leadership were less dramatic than the changes in the economic structure. This was because the energy development companies did not enter actively and publicly in community economic or political processes. Corporate representatives played a role, to be sure, but largely behind the scenes, and through established community leaders. During the 1970s, residents who had entered the community in earlier growth periods were able to consolidate and enhance their leadership positions, though they supplemented rather than replaced the existing leadership. Because political and economic leadership were so overlapping, the participation requirements described for the political system (see Chapter 5) also appeared to apply to the economic arena.

As noted in Chapter 6, there was an increase in the number of new retail and commercial establishments in Grants during the 1970s. New shopping malls were opened, and the range of goods and services available in the community was substantially increased. These changes were viewed with much favor by the local population, and appeared to be welcomed by the local business community as well. In general, there appeared to be a relatively high level of cooperation in the business community, though it was influenced by the overlap of political and economic leadership which added a "strategic" overtone to business as well as political collaboration. The community had an active and effective chamber of commerce throughout the study period.

One of the principal interests of business leaders in the community was to expand the economic base of the community to protect it from the fluctuations of the energy industry. In this, they were relatively ineffective over the study period. By 1981, little diversification had taken place, and no coherent or concerted program for identifying and

encouraging nonenergy-related companies to locate in Grants had been developed.

Because of the community's previous experience with development, with tourism, and with multicultural clientele, little change was noted in the manner in which business was conducted over the study period. Unlike many other energy growth communities in the study sample, residents of Grants were very unlikely to mention any change in the "personal" quality of business interactions. Almost no comments were made about an increase in the requirements for identification or in credit policies, primarily, it appears, because such changes had already occurred during the previous growth periods. Residents in Grants were less likely than residents in smaller, more newly affected communities to speak nostalgically of the past and to regret the changes that had occurred in the nature of interactions in the community.

7.4 Changes in Social Integration and Personal Interaction

The community of Grants exhibited several important characteristics that can be summarized under the label of social integration that appear to have had an important influence on its response to energy-related growth. It has been noted repeatedly in previous chapters that Grants was ethnically, culturally, and religiously diverse. Previous energy development activities had brought large numbers of outsiders to the community. These groups worked together, both in the community and in the mines, attended school together, and intermarried. Although conflicts did exist, the various groups established a balance between autonomy and interaction that allowed them to control the extent of conflict and contain their disputes in a manner which enabled the community to continue functioning in a relatively effective manner.

By 1970, newcomers did not attract particular attention. Indeed, there are some indications that it was more difficult for newcomers to adapt to the community than for the community to adapt to the newcomers. The complexity of the social patterns and mores in Grants

was unanticipated by newcomers from more homogeneous areas. As many of these newcomers entered the community simultaneously, and during a period of rapid growth and strained facilities, the ability and willingness of other community residents to extend a welcome to the newcomers was limited, though a welcoming committee was organized during the most difficult period.

Throughout the study period, much of the important social interaction of the community was carried out through highly informal relationships. Although fraternal and business organizations were important and their number increased over the study period, the overlay of political and economic relationships was particularly important to social relationships in Grants. Although newcomers stressed that one could find and join groups within the community to match their interest, many still felt isolated and "unincorporated" into the true activities of Grants.

The lack of organized recreational activities and facilities in Grants undoubtedly aggravated the difficulty newcomers had in feeling a part of the community. Unlike many small western towns, school sports did not appear to serve as a community-wide focus of attention and unification. Residents complained about the poor quality of school athletic programs and were critical of the school programs. In many small towns, high school sports programs provide an important unifying force, increasing the cohesion of the community, and providing a forum for positive interaction between newcomers and longtime residents.

In earlier growth periods, companies had developed "company" housing in concentrated subdivisions which were open only to company employees. This was frequently noted as decreasing the integration of newcomers by physically isolating them and creating yet another basis for distinction between them and other community residents. During the growth period of the 1970s, this pattern of development within the municipal boundaries of Grants was uncommon. However, subdivision development, mobile home court development, and the persistence of definite "poor" areas in the

community indicated a continued separation of residents along socio-economic lines. It is not clear whether this characteristic was increased or diminished by energy development.

whose goals resembled the messages received in a described manner, was more likely to move into Grants. From 1970-1975, rural citizens in these areas entered the opportunity system of building a period of rapid growth and certain facilities, the ability and willingness of other community residents to extend a welcome to new residents was tested, though a welcoming committee was organized that was the most difficult period.

Throughout the study period, much of the informal social interaction of the community was carried out within family members' relationships, although formal and informal opportunities were important and their nature increased over the study period. The variety of political and economic relationships was significantly important to social relationships in Grants. Although residents agreed that one could find and join groups within the community to whom their interests may well fail matched out "entertainment" was the best activity of Grants.

The lack of organized recreation, activities and facilities in Grants apparently supported the difficulty residents had in finding a place of the community. Unlike many small western towns, school sports did not appear to serve as a community-wide basis of socialization and identification. Residents complained about the poor quality of the academic programs and were critical of the school programs, small towns, high school sports programs provide an important bonding force, increasing the cohesion of the community, and therefore a source for positive interaction between newcomers and longtime residents.

In earlier growth periods, townsites had developed "company" towns in concentrated subdivisions which were open only to company employees. This was frequently noted as decreasing the integration of newcomers by physically isolating them and creating yet another basis for distinctions between them and other community residents. During the growth period of the 1970s, this pattern of development within the municipal boundaries of Grants was uncommon. However, similarities between mobile home development, and the persistence of distinctive "place" bases in the

8. INDICATORS OF COMMUNITY WELL-BEING

8. INDICATORS OF COMMUNITY WELL-BEING

8.1 Introduction

The final topic presented in this report concerns social well-being. In its best form, an analysis of energy development's effects on social well-being would focus on the individual as well as the community. Unfortunately, most of the available indicators of well-being utilize the community or the county as the unit of analysis. One of the problems in attempting to analyze the effects of rapid, energy-driven growth on social well-being is that "well-being" is an inherently subjective concept. It is as much one's feelings about one's life as an objective state. Among other things, well-being is defined in comparison to expectations about how life should be. Consequently, the most effective approach to an analysis of well-being is to combine statements about community resident's perceptions of well-being with objective indicators. Three basic areas are considered:

- 1) Rates of behaviors,
- 2) Access to resources, and
- 3) Perceptions of community and individual well-being.

Even though there is common use of rates of behavior as indicators of social well-being, there are important limitations in this type of analysis that must be remembered:

- 1) In most cases, there is a lack of clearly established cause and effect relationships between the behavior, their rates within a community, and social conditions. For example, no acceptable theory of criminology has been developed. It is not clear what roles social disruption, inadequate access to resources, and stress play in the cause or prevention of crime. The same is true of divorce.
- 2) The available data are often inaccurate and are frequently limited to indirect measures of the phenomenon being studied. In addition, the frequency of occurrence of events like crime

and suicide are often very low, creating unstable measures and rates. A particular problem is that reporting systems or characteristics of service availability frequently changed quite dramatically during the 1970-1980 period. In addition, since many behaviors exhibit differences varying by age groups, the changes occurring in the demographic structure of the community during periods of rapid growth can cause changes in these indicators for reasons other than "community disorganization."

- 3) Much of the most pertinent data is available only at the county level. In Valencia County, the existence of two other major towns (whose experience over the study period was quite different than Grants) and a large population of Native Americans who do not reside in the community make these data questionable in an analysis of Grants.

With these as important cautions, the sections which follow address the question of important changes in the social well-being of Grants residents during the decade of the 1970s. Two types of information are presented. First, secondary data on behaviors and measures of resource availability; and second, interview and survey information that is used to interpret these secondary data and provide additional insight on the types of changes that occurred in Grants during the study period.

8.2 Behavioral Indicators of Well-being

Behavioral indicators of well-being are discussed first. These include divorce, suicide, crime, and infant mortality. Since these data are generally available only at the county level, Valencia County information is used as the best available source. Data for San Juan County (which experienced rapid, energy-related population growth over this same period), New Mexico, and the United States are presented for comparison. As shown in Table 8-1, the city of Grants accounted for 21.6 percent of county population in 1970 and 18.8 percent of county population in 1980. Grants division accounted for 39.5 percent of County population in 1970 and 40.2 percent in 1980. Consequently, the county level data must be viewed with great caution.

TABLE 8-1

Community Population
VALENCIA COUNTY
1970, 1980

Community	Population		Change 1970-1980	Percentage of county population	
	1970	1980		1970	1980
Belen Division	9,353	11,582	2,229	23.1	19.0
Fence Lake Division	1,014	103	-911	2.5	0.2
Grants Division	16,006	24,435	8,429	39.5	40.2
Grants City	8,768	11,451	2,683	21.6	18.8
Laguna Division	3,068	4,233	1,165	7.6	7.0
Los Lunas Division	11,098	19,131	8,033	27.4	31.4
Zuni-Ramah Navajo Division ^a		1,369	1,369		2.2
Valencia County Population	40,539	60,853	20,314	100.0	100.0

Sources: U.S. Department of Commerce, Bureau of the Census, Census of the Population 1980 Advance Report-New Mexico; U.S. Department of Commerce, Bureau of the Census, 1970 Census of the Population, General Population Characteristics-New Mexico, Table 33. Washington, D.C.

^aNot given in 1970

2) The available data indicate that the Valencia population tends to indicate sources of the phenomenon being studied. In addition, the frequency of occurrence of events like

8.2.1 Divorce

Table 8.2 shows the number and rate per 1,000 population of divorces that occurred in Valencia County from 1974 to 1979. For comparison, data for San Juan County, New Mexico and the United States are also included. As seen in this table, the divorce rate in Valencia County was lower than the state average for all years except 1977. Except for 1977 and 1979, the rates in Valencia County were also lower than in San Juan County. Throughout the period 1975-79, the divorce rates in Valencia County, San Juan County, and New Mexico were substantially above those for the United States as a whole.

Since no data prior to 1974 are available, it is not possible to determine whether the low 1974 figures indicate a dramatic upward trend in the latter part of the decade, or whether 1974 is an aberration. Although the Human Services Agency reported family violence related to the stresses created by underground mining, inadequate housing and services, and cultural disorientation (especially a factor for the Hispanic and Native American population of the area), these problems were reported to have existed in Grants throughout its history. Mining as an occupation was reported to enhance problems with drug and alcohol, as workers sought release from the demands for alertness and safety during the work period. The prevalence of shift work was also mentioned as an aggravating factor. This same conclusion was reached by a study conducted in the Grant-Milan area in 1978 (Leonard and Gibson).

One of the additional difficulties in interpreting data and impressions concerning changes in family stability and violence between 1970 and 1980 was that there was a tremendous increase in community and service provider sensitivity to these types of problems during this period.

8.2.2 Suicide

Because of their low frequency, suicide rates in small populations are notoriously volatile and difficult to interpret. As shown in Table

TABLE 8-2

Indicators of Community Well-Being -- Divorce
(Rate per 1,000 population)

Year	Valencia County no. rate	San Juan County no. rate	New Mexico no. rate	United States rate
1974	186 (4.2)	316 (5.1)	7,892 (7.0)	(4.6)
1975	325 (7.1)	490 (7.7)	8,413 (7.3)	(4.0)
1976	319 (6.6)	590 (8.7)	9,128 (7.8)	(5.0)
1977	454 (8.8)	421 (5.9)	9,143 (7.7)	(5.0)
1978	348 (6.5)	511 (6.8)	9,608 (7.9)	(5.2)
1979	383 (6.8)	490 (6.2)	9,978 (8.0)	(N/A)

Source: Leo Yates, Extension Family Specialist, Cooperative Extension Service, New Mexico State University, personal communication, May 1981.

Note: There are no data available prior to 1974 on divorce.

8-3, the suicide rates in Valencia county fluctuated widely between 1970 and 1979. The most pertinent information from this table may be the generally higher rates in New Mexico compared to the United States. Aside from the human service counselors, who commented on the intensity of the cultural disorientation and difficulties created for some groups by the rapid transition into a high technology, high income, high pressure occupation, none of those interviewed provided any evaluation of the suicide data.

8.2.3 Crime

As throughout much of the intermountain West, crime reporting in Valencia County was not standardized until the late 1970s, with the enactment of the Uniform Crime Reporting Act. Consequently, data prior to 1975 are considered unreliable due to lack of consistent reporting. As seen in Table 8-4, neither the incidence nor the rate of part I (serious) crime increased substantially from 1974 to 1979. However, FBI statistics show a dramatic increase between 1970 and 1975, a change not supported by law enforcement officials.

Neither the sheriff's office and nor the police departments reported a great increase in the overall rate of crime over the decade. Indeed, police reported that the gang violence problems of the late 1960s and early 1970s had been resolved over the decade, and that residents' perceptions of public safety had increased. As shown in Table 8-5, the greatest increases in crime in Grants during the 1973 to 1980 period were burglaries and larcenies. This increase was generally not attributed to newcomers. The study conducted in 1978 quoted the assistant police chief in Grants as stating "crime rates among miners are about the same as crime rates among others, although the Indian miners seem to commit more offenses induced by alcohol, such as assault and battery, disorderly conduct, and loitering." (Leonard and Gibson 1978.)

TABLE 8-3

Indicators of Community Well-Being -- Suicide
 (rate per 100,000 population)

Year	Valencia County no. rate	San Juan County no. rate	New Mexico no. rate	United States rate
1970	9 (22.20)	5 (9.52)	164 (16.14)	11.5
1971	1 (2.42)	10 (18.69)	142 (13.59)	11.7
1972	4 (9.48)	8 (14.31)	150 (13.94)	12.0
1973	6 (13.79)	7 (11.86)	189 (17.20)	12.0
1974	6 (13.57)	8 (13.03)	208 (18.59)	12.1
1975	8 (17.35)	11 (17.05)	208 (18.18)	12.7
1976	15 (30.67)	7 (10.29)	215 (18.34)	12.5
1977	8 (15.47)	12 (16.85)	224 (18.73)	13.3
1978	9 (16.73)	11 (14.71)	209 (17.24)	12.5
1979	9 (15.93)	17 (21.66)	243 (19.58)	N/A

Source: Personal Communication, Tony Ortiz, State of New Mexico Vital Statistics Bureau, June 1981.

TABLE 8-4

Indicators of Community Well-Being -- Crime
(rate per 1,000 population)

Year	San Juan County ^a no. rate	Valencia County ^a no. rate	Valencia County ^b rate	New Mexico no. rate
1970			(16.14)	
1971			(21.85)	
1972			(16.84)	
1973			(19.57)	52,862 (48.09)
1974			(27.94)	55,794 (49.71)
1975	2,825 (43.79)	2,010 (44.96)	(39.93)	66,296 (57.92)
1976	3,142 (46.20)	2,230 (48.37)	(45.59)	71,720 (61.19)
1977	3,274 (45.98)	1,970 (40.28)	(40.28)	63,983 (53.49)
1978	3,615 (48.32)	2,349 (47.26)	(47.26)	62,790 (51.24)
1979	4,335 (55.22)	2,266 (40.10)	(40.10)	69,663 (55.90)

Sources: ^aUniform Crime Reporting Section, New Mexico State Police, State of New Mexico, personal communication June, October 1981; ^b FBI Part I Crime, County Data Tapes.

TABLE 8-5

Part 1 Crime: Grants, Valencia County, and New Mexico

Town: Crime	Grants ^b									Valencia ^a								
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980		
Murder	0	1	2	1	2	1	2	1			4	2	5	3	5	1		
Rape	1	3	2	1	3	5	6	3			10	2	12	15	21	11		
Robbery	3	4	12	21	10	12	13	7			34	41	34	38	39	30		
Assault	41	34	34	58	42	72	104	102			107	141	169	357	171	156		
Burglary	74	119	291	328	197	268	315	340			705	738	664	690	782	793		
Larceny	130	132	145	128	146	309	380	343			911	1,173	986	1,088	1,133	1,119		
MV Theft	19	42	44	48	46	86	81	50			239	133	100	158	115	89		
Arson																		
Total Crime	268	335	530	585	446	753	901	846			2,101	2,230	1,970	2,349	2,266	2,199		
Population				9,281				11,451			44,700 ^c	46,100 ^c	48,900 ^c	49,700 ^c	56,500 ^c	60,853		
Rate/1,000				63.03				73.88			44.96	48.37	40.28	47.26	40.10	36.13		
State Total	52,862	55,794	66,296	71,720	63,983	62,790	69,663	71,959	52,862	55,794	66,296	71,720	63,983	62,790	69,663	71,959		
State Rate	48.1	49.7	57.9	61.2	53.5	51.2	55.9	55.4	48.1	49.7	57.9	61.2	53.5	51.2	55.9	55.4		

Sources: ^aNew Mexico State Police, New Mexico Crime Report, 1975-1979. Santa Fe, New Mexico, personal communication, May 1981.

^bJohnson, William, Assistant Chief of Police, City of Grants, personal communication, 21 September 1982.

^cPopulation figures mid-year estimates, University of New Mexico B of B & E Research.

Note: State police figures not included for Valencia County or city of Grants.

8.2.4 Infant Mortality

As seen in Table 8-6, the low incidence of infant mortality in counties such as Valencia and San Juan make infant mortality rates unreliable. There is no clear trend observable in the infant mortality rates in Valencia County over the decade of the 1970s. For example, the highest rate occurred in 1971 (27.5 deaths per 100,000 live births), the lowest in 1975 (12.4) and the fifth highest in 1979 (21.7). In both Valencia and San Juan counties, rates were lower in the second half of the 1970s than in the first half.

Over the study period, medical personnel became more available in the Grants area. Prior to this staff expansion, residents indicated that access to medical personnel had been a problem.

8.2.5 School Dropouts

School dropouts have been a concern to New Mexico school officials for many years. School officials in Grants indicated that the number of dropouts was traditionally relatively high and that the increased availability of high-paying jobs in the mining industry had aggravated the problem. Companies, responding to the concerns of the community, had generally cooperated by following a policy of not hiring workers under age eighteen. They also supported the Grants Branch Community College technical programs, encouraging students to complete school and obtain additional skills. This response by the companies was reported to be quite effective.

In the 1979-80 school year, the average dropout rate (number of dropouts/(180th day membership + dropouts)) in New Mexico was 9.2. In the Grants district, the rate was 12.37. In the Farmington district, the dropout rate was 7.74. (New Mexico State Department of Education 1981.)

TABLE 8-6

Indicators of Community Well-Being -- Infant Mortality
(per 1,000 live births)

Year	Valencia County no. rate	San Juan County no. rate	New Mexico no. rate	United States rate
1970	25 (27.2)	43 (32.0)	463 (21.0)	(20.0)
1971	25 (27.5)	31 (23.3)	460 (20.7)	(19.1)
1972	19 (22.3)	41 (32.0)	403 (19.4)	(18.5)
1973	19 (23.7)	41 (29.1)	421 (20.2)	(17.7)
1974	16 (18.7)	35 (25.5)	391 (18.3)	(16.7)
1975	11 (12.4)	20 (13.2)	357 (16.9)	(16.1)
1976	19 (17.5)	20 (12.1)	347 (15.6)	(15.2)
1977	17 (13.9)	24 (13.4)	333 (14.4)	(14.1)
1978	23 (17.4)	29 (15.3)	330 (13.8)	NA
1979	29 (21.7)	27 (12.9)	352 (14.2)	NA

Source: Personal Communication, Tony Ortiz, U.S. Rates 1980 U.S. Statistical Abstract, Bureau of Census, Dept. of Commerce.

Note: Infant mortality is deaths from 0 days to 1 year.

NA = Not Available.

Another problem for both students and schools was the heightened student turnover rate that occurred during the rapid growth period. Although no data are available to quantify the turnover rate, school officials felt it had increased as a result of transient workers moving into and out of the community. Teachers reported that the high turnover rates made teaching more difficult and less rewarding because they could not follow students through the system and observe their progress. Along with comparatively low pay and internal system conflicts, the increased turnover rate was identified as a factor in the morale problems experienced by Grants teachers during the study period.

8.2.6 Public Assistance and Welfare

Some important changes were noted in the pattern of welfare and public assistance use during the rapid growth period. During this time, the number of cases per month increased dramatically, but case turnover was also very high. Public assistance officials said that this resulted from a high number of people receiving public assistance as an emergency measure after arrival in the community when they faced high moving and household establishment expenses and delays in job-related income flows. Because jobs were readily available in Grants during the growth period, these people were usually able to move off public assistance in a relatively short time.

This pattern was so pronounced that public assistance officials strongly recommended modification of staffing and program design to facilitate handling this high but temporary demand. The energy-related population was generally not found to utilize public assistance over the long term. The relatively high need for short-term assistance, however, indicates many newcomers did experience a period of economic crisis and uncertainty. The available data on public assistance are shown in Table 8-7.

It was not clear what would happen to the need for public assistance as the bust cycle advanced. By 1981, case loads were increasing and turnover was slowing.

TABLE 8-7

Public Assistance
Valencia County

Year	AFDC		Foster Care		Cases ^a	Food Stamps		General Assistance	
	Expend. ^b	PCE ^c	Expend. ^b	PCE ^c		Expend. ^b	PCE ^c	Expend. ^b	PCE ^c
1973	\$1,096,013	\$25.19	\$5,922	\$0.13	7,045	\$2,475,822	\$56.91	\$4,356	\$0.10
1974	1,252,575	28.34	8,116	0.18	6,341	2,670,754	60.42	9,824	0.22
1975	1,338,273	29.03	6,989	0.15	5,470	2,551,230	55.34	21,424	0.46
1976	1,265,991	25.89	6,142	0.12	4,256	2,043,110	41.78	14,005	0.28
1977	1,226,533	23.72	4,748	0.09	3,522	1,770,752	34.25	10,986	0.21
1978	1,300,584	34.17	5,921	0.11	3,926	1,762,524	32.76	15,780	0.29
1979	1,494,469	26.45	6,421	0.11	1,884	2,564,892	45.39	26,876	0.47

Sources: New Mexico Department of Human Services, Income Support Division, Fiscal/Statistical Section; Santa Fe, New Mexico, personal communication, May 1981.

^aPersons.

^bValue total.

^cPer capita expenditures.

No specific data are available on the incidence of child abuse and neglect during the study period. Human service officials felt that the lifestyle followed by many of the newcomers led to increased problems in these areas. In addition, they felt that the increased labor force participation of women, especially among cultural groups where such participation represented a dramatic break from tradition, contributed to such family problems.

8.2.8 Alcoholism and Drug Abuse

Alcoholism and drug abuse are social problems for which quantified information is lacking. Grants has traditionally had higher than average problems with substance abuse, and most of those interviewed felt that energy development played only a minor role in the problem in the community. Grants was known as a high drug-exchange area. At the beginning of the study period, the selling of drugs to high school students was one of the major community issues; it was an important factor in the physical design of the new high school.

Miners were known as hard drinkers, but they were not unique in this respect, and few residents or agency officials felt that the energy-related population caused a disproportionate share of the alcohol and drug problems in the community. Driving while intoxicated was an important community problem throughout the study period (and before).

8.3 Access to Resources

In addition to behavioral indicators of the type discussed above, studies of well-being indicate that access to resources -- jobs, income, public facilities, housing -- constitute an important component of well-being. Those addressed in the following analysis include per capita income, unemployment, the number of retail businesses, student-teacher ratios, and medical facilities. Ideally, data on the actual distribution pattern of these resources would be examined. Unfortunately,

TABLE 8-8

Indicators of Community Well-Being -- Per Capita Income

Year	Valencia County	San Juan County	New Mexico	United States
1970	\$2,419	\$2,305	\$3,045	\$3,893
1971	2,771	2,436	3,265	4,132
1972	3,113	2,785	3,596	4,493
1973	3,498	3,066	3,951	4,981
1974	4,150	3,366	4,325	5,428
1975	4,647	4,015	4,836	5,861
1976	5,364	4,561	5,319	6,401
1977	6,224	5,241	5,920	7,035
1978	7,147	5,962	6,742	7,846
1979	7,575	6,764	7,482	8,757

Sources: U.S. Bureau of the Census, BEA, REIS, New Mexico, April 1981.
U.S. BEA, REIS, United States. April 1981.

annual time-series data of this type generally do not exist, and the census data for 1980 are not yet available.

8.3.1 Per Capita Income

The data presented in Table 8-8 show increased per capita income in current dollars for all units over the 1970-79 period. During that time, per capita income in Valencia County was less than that in neighboring San Juan County, New Mexico, and the United States. In 1970, per capita income in Valencia County was 75.7 percent of the state level and 59.2 percent of the national average. In 1979, the per capita income in Valencia county had risen to 90.4 percent of the national average. This shows a clear comparative increase in average per capita income for Valencia County residents over this period.

8.3.2 Unemployment

For a rapid growth county, Valencia showed relatively high unemployment rates over the 1970-80 period. Although frequently lower than state averages, Valencia County unemployment rates were consistently above national levels, as shown in Table 8-9. There was a wide-spread perception in Grants that local unemployment levels were considerably lower than those indicated for the county as a whole. The presence of Native Americans and land grant residents who traditionally demonstrate high unemployment rates undoubtedly influenced these county figures.

8.3.3 Number of Retail Businesses

The number of retail businesses can be used as an indication of the availability of retail goods. Surveys in both rapid growth and other rural areas indicate that residents value access to retail goods within the community. Data in Table 8-10 show that the number of retail businesses in Valencia County increased from 191 in 1970 to 258 in 1979, a growth of 35 percent. In comparison, the growth in the number of retail establishments at the state level was 30.6 percent. In San Juan County, the number of retail businesses increased by 49 percent over the same period. This increase was noted with approval by most

TABLE 8-9

Indicators of Community Well-Being -- Unemployment
(percent)

Year	Valencia County	San Juan County	New Mexico	United States
1970	11.7	6.8	7.7	4.9
1971	11.0	7.8	8.2	5.9
1972	11.0	7.4	7.5	5.6
1973	10.7	8.0	7.4	4.9
1974	10.7	8.8	8.2	5.6
1975	12.2	9.6	10.0	8.5
1976	10.3	8.8	9.2	7.7
1977	7.5	7.4	7.8	7.0
1978	6.4	5.6	5.8	6.0
1979	8.1	6.7	6.6	5.8
1980	7.8	8.7	7.4	6.6

Sources: State of New Mexico, Employment Security, Annual Reports, Santa Fe.; 1980 Statistical Abstract U.S. Bureau of the Census, Washington, D.C.

TABLE 8-10 Indicators of Community Well-Being - Retail Business

Indicators of Community Well-Being - Retail Business

Year	Valencia	San Juan	New Mexico
1970	191	286	5,740
1971	185	287	5,843
1972	198	291	5,955
1973	201	303	6,057
1974	226	357	6,996
1975	NA	NA	NA
1976	NA	NA	NA
1977	250	433	7,596
1978	256	425	7,476
1979	258	426	7,500

Source: U.S. Department of Commerce, County Business Patterns - New Mexico.

Note: NA = Not available.

BLM Library
 Denver Federal Center
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 P.O. Box 25047
 Denver, CO 80225

community residents because it reduced the need to travel the eighty miles to Albuquerque to shop.

A market basket survey in Grants showed that food prices in Grants were comparable or slightly below those in Billings, Montana at the same time. The price of market basket items in Grants was \$10.75 compared to \$10.93 in Billings.¹

8.3.4 Student-Teacher Ratios

Quality of education and student relations were important issues in Grants during the study period. At the beginning of the period, school administrators, teachers, and parents were concerned about the student conflict occurring in some schools and with the poor quality of the system's athletic program. Although the system utilized temporary, portable classrooms throughout the period (60 such classrooms were in use in 1980), this accommodation to rapid growth elicited few comments from teachers or parents. The student-to-teacher ratios for the city of Grants from 1970 to 1980 are shown in Table 8-11. As seen in this table, the highest student-teacher ratios occurred in 1978 and 1979 (21.7 and 20.9 students per teacher). In 1980, the ratio was at its lowest for the entire eleven-year period (16.4).

Few comments regarding staff size or overcrowding were made during the interviews in Grants. Rather, comments focused upon the loss of teachers to higher paying jobs in other employment sectors, the special requirements of a multiethnic student body, the poor athletic program (which affected community pride), and the problems of drugs and dropouts.

In the latter part of the decade, Grants's human services agency (Human Resources, Inc.) established a counseling program in collaboration

¹Market basket items included hamburger, canned green beans, frozen orange juice, bread, milk, butter, eggs, lettuce, and cookies. (Mountain West Research, Inc. 1982.)

TABLE 8-11

Indicators of Well-Being
Average Daily Membership and Pupil/Teacher Ratio

Year	Average Daily Membership		Pupil/Teacher Ratio
	Elementary	Secondary	
1970	NA	NA	18.9
1971	NA	NA	17.6
1972	NA	NA	17.5
1973	NA	NA	17.3
1974	NA	NA	19.3
1975	2,202	2,822	18.6
1976	2,422	2,908	18.8
1977	2,498	3,127	17.5
1978	2,590	2,915	21.7
1979	2,719	2,934	20.9
1980	2,554	2,812	16.4

Source: Computed by Mountain West Research, Inc., based on certified FTE employees and total enrollment. Max G. Lopez, Director of Instruction, Grants Municipal Schools, Personal Communication 28 Sept 1981.

Note: NA = Not available.

The Community Survey was conducted by a telephone interview of a random sample of households in Grants. The survey was done. The only available documentation of the survey sampling frame are records for years in which the survey was conducted through the year. Between 1977 and 1979, the response rate of the sample approximated 80% of the households.

with the schools. Although there were problems in developing the working rules of the program, it was generally felt to have served a vital function.

8.3.5 Medical Facilities

Prior to the growth period of the 1970s, Grants had a difficult time attracting and keeping an adequate staff of medical personnel. Residents frequently noted that poor medical care was one of their principal concerns about living in the area. Although the Cibola General Hospital, which had a licensed capacity of forty-three beds and fourteen bassinets (Gibson 1979), was located in Grants, residents reported that neither the staff nor the facilities were considered adequate. During the study period, major efforts were undertaken to attract new physicians to the community. An important part of this strategy was the upgrading of medical facilities, (including the construction of a new clinic), making them more attractive for physicians. Newcomers and energy companies were consistently credited with a major portion of this effort. Over the study period, residents did report an important improvement in the number and quality of medical personnel in the town. Nevertheless, by as late as 1978, a shortage of trained medical personnel and accredited facilities still persisted.¹

At the time of the study, many Grants residents still drove to Albuquerque for medical care, although a number of those interviewed indicated that the proportion who could and would use the medical facilities in the community had increased since 1970.

¹The Anaconda mine located on the Laguna Indian Reservation operated a mobile health program called CARE. This program was estimated to cost approximately \$50,000 per year to operate. (Leonard and Gibson 1978.)

Market basket items included ham, bacon, canned green beans, frozen orange juice, bread, milk, butter, eggs, lettuce, and condiments. (Mountain West Research, Inc. 1982.)

8.4 Indicators of Attitudes and Perceptions of Community Residents

8.4.1 Information Sources

The following is based on the work of the San Juan Basin Regional Uranium Study (U.S. Department of Interior), a survey.¹

8.4.2 Overall Community Satisfaction

A high proportion of respondents in the community survey indicated that they liked living in Grants "quite well" or "very much" (70 percent). However, 6.7 percent reported that they did not enjoy life in the area at all. Although the survey report indicated the breakdown of respondents by length of residence in the community (five years or less, 41.7 percent; 5-20 years, 29.2 percent; and lifelong, 17.5 percent), no analysis of community satisfaction by length of residence was presented.

Nearly half of the respondents in the survey (47.9 percent) said that they felt Grants/Milan was a very friendly community; 23.7 percent said that it was somewhat friendly. Nearly one-fourth (24.4 percent) felt that the community was not very friendly. This corresponds to the observations of Leonard and Gibson (1978). Interviews conducted for this study in 1981 obtained a more positive response. Since these later interviews did not represent a random sample of residents, it is not clear whether residents' attitudes toward one another had changed as growth declined, or whether an insufficient number of the more isolated and dissatisfied residents were included in the sample interviewed for this study.

Respondents to the community survey identified four groups they felt were likely to be having special difficulties in Grants: the elderly,

¹The Community Survey was conducted as a face-to-face interview of a random sample of households in Grants. The sample size was 514. The only available documentation of the survey results does not specify the year in which the survey was conducted (though it was almost certainly between 1977 and 1979), the response rate, or the gender characteristics of the respondents.

teenagers, young marrieds, and newcomers. Newcomers were generally considered less likely to have special difficulties than the other three groups.

Most of those interviewed in the community survey (80.7 percent) said that they wanted to stay in Grants even if the job they were working at ended and a different one had to be sought. Of those interviewed, only 8.7 percent said that they planned to move elsewhere at the end of their job or that they were actively seeking work elsewhere. This finding is surprising, given the high proportion of respondents' households (65.2 percent) in which the major employment was with a mining company.

8.4.3 Satisfaction with Work

In the community survey sample, 87.7 percent reported that the head of household was employed full time, while 1.5 percent and 7.5 percent, respectively, reported that this person was employed part time or was retired. The head of household was unemployed in 3.1 percent of the sample households. Of the unemployed wives in the sample households, 5.9 percent were looking for work. A high number of the respondents reported that a household member was employed in a job which entailed shift work (43.8 percent). Most of these respondents indicated that varied shifts were satisfactory; about 10 percent had complaints about working other than a "normal" schedule.

8.4.4 Community Facilities

Respondents in the survey were asked to identify the three greatest needs in the Grants/Milan area. Better shopping facilities were identified as the greatest need by the largest proportion (17.5 percent) of the respondents, while better streets and roads were identified by 13.6 percent, more recreation by 11.7 percent, better city services by 10.1 percent and better and more housing by 9.7 percent. The needs identified as second and third choices were similar, with the addition of the need for better medical facilities.

Respondents in the survey were asked which city services were adequately provided. Twenty-nine (29) percent said that all were adequate, 14 percent said that all services were adequate a majority of the time, and 13 percent said that none were adequate. Streets and roads was the response given most frequently (24.1 percent) to a question asking which city services were poorly provided. A small majority (56.4 percent) of the respondents indicated that they felt the mining companies were contributing their fair share to the community.

At the time of the community survey, 88 percent of the respondents indicated that they sought doctor's services in Grants on at least an occasional basis. However, for specialized or continuing treatment, almost 59 percent reported that they traveled to Albuquerque where there were specialists, and they felt that they received better care. Most of the respondents reported that they utilized area dentists (71.7 percent).

When asked about their present satisfaction or dissatisfaction with the Grants/Milan public schools, 24 percent indicated that they were very satisfied, 46.6 percent said that they were only somewhat satisfied, and about 20 percent were dissatisfied or very dissatisfied. Responses to the survey indicated that residents believed the principal problems for public school students and their families were drugs, racial bias, and teachers who could not maintain classroom discipline.

8.4.5 Crime and Public Safety

The survey also contained a number of questions about crime, public safety, and law enforcement in the Grants/Milan area. Over one-fourth (26.7 percent) of the respondents said that Grants was a very safe place to live; 45.4 percent said that it was "fairly safe" while the remaining 27.9 percent said that it was not safe. The principal complaints were about violence, break-ins, disorderly conduct, and reckless driving. Most respondents reported such incidents to be infrequent. Eighty-six (86) percent of the households in the sample reported that no member had been the victim of a crime. Teenagers were the group most commonly

attributed with causing crime. Over 45 percent of the respondents mentioned teens as responsible for most of the crime, while 8 percent said drug abusers and pushers were responsible.

Over 42 percent of the respondents believed that child abuse was a serious problem in Grants; 13.8 percent said it was not a serious problem; the remainder said they did not know. No group was thought to have a particularly high incidence of child abuse. Excessive drinking was generally identified as a major factor leading to child abuse.

Both drug and alcohol abuse were considered to be problems in the community. When asked if they knew anyone with a drug problem, 43.9 percent of respondents said no, but 22 percent said that they had friends, relatives, or neighbors with drug problems. Young adults were the group most frequently identified as having drug problems. Nearly two-thirds (62.6 percent) of the respondents said that people in the Grants/Milan area drank too much; 44 percent knew of someone with a drinking problem. Unlike those with drug abuse problems, alcohol abuse was generally considered more of a problem among those over age forty.

8.5 Summary

Some important changes occurred in Grants during the study period which affected residents' perceptions of their quality of life. During the very rapid growth period, a high percentage of community residents were strangers to one another. Housing, streets and roads, water and sewage, education, and law enforcement were concerns for many residents.

An almost universal response by those interviewed for this study was that the rapid growth period of the 1970s, like those before it, had been chaotic, stress-provoking, inconvenient, and not particularly pleasant. By 1981, however, most looked back on the period as an inconvenience which was part of the cost of energy development and which did not persist indefinitely. Most felt that community services had

improved by 1981, in large part because of Grants's access to state impact assistance funds.

Grants had always been a relatively isolated and poor town. Residents generally appreciated the constraints placed on the town's opportunities for economic growth by its geographic location, resources, and proximity to Albuquerque. A perception generally held by those interviewed for the study was that energy development represented the only real opportunity for substantial growth in the Grants area, though many wished that this growth could be utilized to diversify the economy. Jobs and economic security were primary concerns for many of the Grants residents, as was the case in many other communities. Residents were not willing to have their community or environment destroyed to provide jobs, but they generally did indicate a willingness to be somewhat inconvenienced and to tolerate the stresses and strains of growth in order to obtain a stronger community and individual economic position.

9. SUMMARY

9. SUMMARY

9.1 The Community Prior to the Study Period

The city of Grants is located along Interstate 40 in west-central New Mexico approximately sixty miles east of Gallup (the capitol of the Navajo Nation) and seventy-eight miles west of Albuquerque, the primary urban, trade, and transportation center of the region. It is the county seat of Cibola County (previously the western portion of Valencia County). The city is located in the semiarid prairie that separates the mountains (Mt. Taylor 11,389 feet to the north and the Zuni Mountains to the east) from the desert. Seven Indian reservations lie partially or wholly within Cibola County (Acoma, Isleta, Laguna, Zuni, Romah, Canoncito, and Navaho), as do several Spanish land grants.

The area was initially settled by Indians, who established a complex agricultural and communication system. They were superseded by nomadic Navajos and Apaches. The first Europeans to enter the area were Spanish explorers and missionaries. The Spanish settled throughout the region, creating an atmosphere of conflict with the Indian residents that remained unresolved until the latter half of the 1800s. (New Mexico Commerce and Industry Department 1980.)

The entire region was under Spanish rule until 1821, when Mexico gained its independence from Spain. In 1848, under the treaty of Guadalupe Hidalgo, the New Mexico Territory became part of the United States. The first substantial influx of Anglo-Americans (non-Indians and non-Spanish Americans) occurred following the Civil War. The newcomer Anglos were primarily ranchers, railroaders, and miners.

Grants has had a colorful and varied history. The notable events affecting the city include the following:

- 1) Completion of the Atlantic and Pacific Railroad in the 1880s
- 2) Construction of the Bluewater Irrigation Dam and Reservoir in 1927

- 3) City incorporation in 1946
- 4) Discovery and development of uranium in the 1950s
- 5) Construction of I-40 in 1975
- 6) Establishment of Cibola County (of which Grants was the county seat) in 1981

Grants itself was established as a railroad town in the 1880s and served as a shipping point for locally raised cattle and sheep until the 1940s. The economy was based primarily on livestock. Lumbering began on a small scale west of Grants in the 1890s and became an important industry from the early 1900s until after World War II.

The area developed into a major truck-gardening center (primarily carrots, along with cauliflower, lettuce, beans, onions, cabbage, and potatoes) during the late 1930s. This industry persisted until the mid-1950s when new packaging, expensive freight costs, competitive commercial farms, and competition with uranium mining for water and labor caused its decline. Throughout this period, Grants served as a retail trade and service center for the local area and for tourists.

Mineral exploration and development began in the Grants area in the 1930s with the mining and milling of pumice near Mt. Taylor. A crushing plant was built in Grants in 1938. Proctor and Gamble, the U.S. Gypsum Company, and the U.S. Navy were the major actors in this industry. In 1950, uranium was discovered on Santa Fe Railroad property about ten miles west of Grants. A rush of prospecting followed. In 1951, the Anaconda Company discovered a huge deposit on the Laguna Indian Reservation. By 1955, a number of major companies were active in the area (Anaconda, Kermac, Nuclear Fuels, Phillips Petroleum, Homestake, Climax, and several others). The boom of the 1950s was followed by a bust, a cycle that was repeated in the 1960s and the 1970s.

Historically, Grants was affected by its position as the third, and geographically most distant, city in a large county and by its relative proximity to Albuquerque, which inhibited its diversification and growth.

The Grants area was mixed culturally, with two very distinct groups of land-based residents -- the Native American population and the residents of the Spanish land grants. Additional culturally distinct groups such as the Mormons (who resided primarily in the settlement several miles outside of Grants), the French-Canadians, and the Hispanics (divided into those of Spanish and those of Mexican origin) contributed to the traditional social diversity of the area. In Grants itself, the population consisted primarily of two groups -- the Anglos and the Hispanics. Few Native Americans or members of Spanish land grant families resided in the town and its immediate vicinity.

By the beginning of the study period in 1970, the area had already experienced many large fluctuations in population. In 1960, the population of Grants was 10,274 and increasing; by 1970, it had fallen to 8,768, but was again increasing. Over the 1960 to 1970 period, the population of Valencia County (of which Grants was a part) rose slightly -- from 39,085 to 40,539 (U.S. Census of the Population). There are estimates that the population of Grants rose to over 14,000 in 1978-79 before declining to 11,500 in 1980, though it appears likely that these estimates included residents in the unincorporated areas outside the city.

As a result of its diverse economic base -- ranching, lumbering, agriculture, mining -- and its diverse social composition, the political structure of the community (and county) was complex. Until 1981, Grants was part of Valencia County, and was approximately eighty miles from Los Lunas, the county seat. This reportedly isolated Grants residents from county-based activities. Nevertheless, Grants was historically well represented in state government. Among the most senior members of the state senate and the state legislature were two Grants residents.

Since little of the basic economic activity was located within the city limits, the tax base of the community was limited, and services were traditionally adequate but minimal. Because of the presence of the Native American reservations and the Spanish land grants, as well as

large portions of federally owned land, the community and its leaders had long been exposed to the formal and changing organizations and regulations of the federal and state governments. A number of programs directed at special populations were located in Grants.

Because of its background, the political processes in Grants and Valencia County were both sophisticated and highly developed. Leaders, both Anglos and Hispanics, emerged with a more complex orientation to leadership and political activity than was observed in most other study communities. Leaders generally seemed well aware of the need for long-term strategy and for compromise in order to be effective. The result was substantial interaction and negotiation between the dominant political forces (Republican vs. Democrat and Anglo vs. Hispanic) which overlapped one another.

By the beginning of the study period, the community had a sufficient stake in continued energy development to produce strong, active support for development within the community. Indeed, by the 1970s, most residents were as concerned about the impact of decline in resource-based activities as with their expansion. Because of the extensive uranium and coal deposits in the area and their importance to the community's future, Grants tended to define itself in terms of energy development, organizing campaigns touting the community as the uranium capital of the world. People reported that they liked Grants primarily because of the friendly and diverse population and the climate, even though they did not consider the town particularly attractive and rated community facilities as only adequate.

Although none of the energy projects affecting Grants involved construction of a major fixed site facility that required a very large (over 1,000 people) and temporary work force, the simultaneous development of numerous projects created a very rapid population growth which led to a housing shortage. When a similar problem developed during the 1950s, one of the energy companies constructed a subdivision of miners' housing in Grants. Access to this housing was limited to company

employees, a policy which created problems and was generally believed to have made employees' integration into the community more difficult. During the 1970s, several of the companies developed worker housing near their project sites. In addition, the companies were characterized as having taken a generally helpful attitude toward the community, participating in community fund-raising events and assisting (by providing equipment and personnel) during community emergencies like a threatened flood. For projects located on reservations or land grants, agreements were generally established to ensure the training and employment of reservation or land grant residents. This resulted in a substantial expansion of employment opportunities and income for these groups. According to local mental health workers, it also generated a clash of cultures for those participating in both the reservation/land grant and the industrial lifestyles.

Aside from these activities, no coordinated or intensive company-sponsored mitigation efforts were made. In general, community residents interviewed for the study considered this to have been normal and acceptable.

9.2 Description of Energy Projects and Summary of Project-Related Employment

9.2.1 The Projects

From the 1950s, when uranium was first discovered in the Grants area, to the 1970s, when the most recent major expansion of mining and milling occurred, there was an increasing trend toward ownership by very large multinational corporations. As it occurred, this shift from small operators to large corporations was generally viewed by local residents as beneficial; the participation of major corporations was interpreted (incorrectly, as it turned out) as enhancing the industry's ability to smooth out the peaks and valleys in employment.

Grants was affected by development occurring in both McKinley and Valencia counties. By 1970, three types of energy development activities were affecting Grants: uranium, coal, and oil and gas. The

largest and most immediate effects were caused by uranium mining and milling. Most of the development took place more than five miles outside of Grants. Many of the mines were underground. None of the energy facilities were visible from the town.

As shown in Table 9-1, mining and milling operations by SOHIO, Anaconda (ARCO), Gulf, United Nuclear, James Hamilton, and Mining Unlimited, Inc. were located in the vicinity of Grants during the 1970s. By 1979, employment in uranium mining and milling activities in the area had risen to approximately 3,000 workers. Although the nearest operating coal mines were somewhat distant from Grants, (they were closer to Gallup), in 1979 an estimated 550 area residents were employed in coal-related jobs. The resurgence in uranium-based employment which had started in the late 1960s and early 1970s escalated during the 1977-79 period before it declined abruptly in 1980, when almost all companies cut back on their activities and a number shut down completely. No definitive information is available on employment in natural gas or oil exploration or recovery.

9.2.2 Phases of Development

9.2.2.1 Resurgence of Uranium Development: 1971-75

During this phase, the downward trend in uranium activity was clearly reversed, and workers and their families again started migrating into Grants. During this period, confidence in the permanence and magnitude of the growth rose as large corporations entered the local economy and the national emphasis on nuclear power seemed to ensure a long-term market for uranium.

9.2.2.2 Rapid Growth Period: 1976-79

By 1976, the expansion of uranium mining and milling activities was in full swing. New mines were opening, and existing operations were expanding. The population influx increased; housing continued to be difficult to obtain, although new construction was proceeding rapidly. The growth phase was forecast to continue well into the 1980s.

TABLE 9-1

Average Annual Employment by Place of Work
 Uranium Projects
 1970-80

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
F-33 Mine		15	22	NA	16	14	13				
JJ No. 1 Mine (Sohio)						40	84	172	284	332	290
Jackpile Paguate											
Anaconda (ARCO)	299	337	NA	420	382	420	422	491	507	490	
Jackpile Mine											
James Hamilton			NA	23	31	76	125	111	141	160	
PW-2/3 Mine											
Anaconda (ARCO)									4	9	4
Mt. Taylor - Gulf						12	64	73	344	536	593
Mt. Taylor - Harrison						77	81	172			
P92 Mine - Anaconda					5	31	32				
P10 - Anaconda				NA	68	101	172	182	177	227	241
St. Anthony (Farris)						32	103	95	133		
St. Anthony				NA			2	30	67 ^a	69	131 ^a
(UNC) (Pit)											63 ^a
St. Anthony										46	58
(Underground)											
Bluewater Mill											
Anaconda	318	318	NA	334	331	345	385	471	500	233	
L-Bar Uranium											
Mill (Sohio)							74	69		290	96
UN-HP Mill	132	108	NA	124	124	151	196	163	248	263	
Alpine-Minet											
Test Mine	6	6									
San Mateo Mine		8									
McKinley											
(Coal) (Est.)	351	351	351	351	351	351	351	351	351	351	351
Wentmore-(Coal)									opened	175	175

Source: Bureau of Mines Inspection Annual Reports 1971-1980, (1973 missing). New Mexico Energy & Minerals Dept., Albuquerque.

^aMine shaft.

Note: NA = Not available.

9.2.2.3 Faltering Growth and Bust: 1980-81

In 1980, the bottom fell out of the uranium market, and mines and mills started reducing their work force and shutting down operations. This resulted in major unemployment for residents of Grants as well as nearby land grants and reservations. Because the abrupt decline was unexpected, the level of uncertainty during 1980 and 1981 was very high, and personal, corporate, and municipal planning was seriously disrupted. Unemployment increased dramatically. Because uranium mining throughout the nation was similarly affected, employment opportunities were reduced elsewhere, so workers did not immediately leave the Grants area (although it was reported that many miners left to search for work while their families remained).

9.3 Changes in Community Resources

9.3.1 Public Facilities and Services

Because the mineral resources and development activities were located almost entirely outside of Grants, the revenue effect to the town as a result of development was largely limited to sales tax receipts, since property value did not increase substantially. (Mines and mills located on reservations or land grants often had specific royalty agreements which generated substantial revenues for these entities.) As a result, Grants, which traditionally operated on a limited budget and obtained only moderate support from the county, was increasingly hard-pressed to provide the additional services required by the expanding population. During the latter portion of the 1970s, the community applied for, and received, funds from the state Community Assistance Council. These monies were primarily used to upgrade roads and water and sewer facilities.

Since 1974, school operating budgets in New Mexico have been provided primarily through state equalization funds, although local areas are responsible for capital facilities. Throughout the study period, a number of temporary classrooms were utilized by the Grants schools.

9.3.2 Housing

Housing was a problem throughout the study period, despite effort by energy companies to construct housing subdivisions proximate to the work sites. As during the previous boom period, the increased demand for housing was met by an expansion in the number of mobile homes and mobile home parks. Although Grants had enacted zoning regulations well before the study period, these regulations were reported to have been only loosely enforced. Public pressure for more stringent enforcement increased during the latter part of the 1970s. This, combined with street improvements (financed in part by state impact assistance funds), resulted in improved conditions in many of the mobile home communities.

Local developers and entrepreneurs were actively involved in the real estate market, which grew rapidly and was forecast to continue to grow well into the 1980s. When the boom turned to bust and national interest rates remained high, local investors as well as homeowners suffered financial loss, and the market for housing disappeared.

9.3.3 Private Investments

Local business expansion in Grants during the 1970s was initiated by local entrepreneurs, by in-migrating small businessowners, and by large corporations. Because the growth of the 1970s was forecast to be large and long-term, there was considerable incentive for business expansion to occur. There is no question that the increased population and expendable income generated by the energy development resulted in the expansion and diversification of business activities. Interviews with longtime business operators in Grants indicated that the increased activity more than compensated for the increased competition. Because many local businesses were located on premises that were paid for and utilized family labor (supplemented during peak periods by hired personnel), longtime businesses were in a position to expand or contract in respond to fluctuations in business volume. For this reason, plus their greater commitment to the area, they were less vulnerable to slowdowns than newcomers' businesses. Those most seriously hurt during the study

period (1970-80) were entrepreneurs who had borrowed heavily to capitalize on the expected growth in the early 1980s which did not materialize.

9.3.4 New Economic Climate

Grants was well-experienced with the boom-bust cycle. Consequently, despite the forecasts for continued growth through the mid-1980s, many longtime residents were not entirely surprised by the rapid downturn, although its timing was unexpected. Residents of Grants expressed dismay over the lack of a national energy policy that would address such problems. Many aspects of community life had adapted to growth, and the community had a strong stake in the continuation of energy activity. At the time of the study, local influentials were attempting to organize a region-wide delegation to travel to Washington, D.C. to promote a more coherent energy policy that would result in a more stable level of uranium development.

9.4 Changes in Social Organization

9.4.1 Diversity/Complexity

Although the energy growth that occurred during the 1970s resulted in a noticeable increase in the number and diversity of the economic activities in Grants, the relatively short duration of the growth cycle kept these changes from being as marked or permanent as they otherwise might have been. Because of its previous experience with energy activity and its historical economic diversity, these changes were not considered particularly significant to the long-term characteristics of the community.

During the study period, Grants experienced substantial increases in population. However, because of its multiethnic background and its previous integration of miners (from the southeastern United States and French Canada as well as the intermountain West), the new population caused only a moderate increase in social diversity or complexity.

Little change was seen in the political structure of the town, although increased requirements for planning, grant application, and administration and financial control resulted in the development of some more specialized, professional governmental positions. The leadership structure, already highly complex and diverse, was not significantly altered. Because of the multicultural nature of the population, formal mechanisms and procedures to ensure equitable treatment and reduce misunderstandings had largely been developed prior to the study period; during the study period, these mechanisms and procedures were enhanced and expanded. The increased population and heightened political visibility in the Grants area caused by energy development was instrumental in prompting the establishment of Cibola County, with Grants as the county seat. Of all the changes brought by energy development during the 1970s, this may turn out to have the greatest long-term effect on the community.

9.4.2. Stratification (Distribution of Resources and Status)

Because of its previous experience with similar types and magnitude of growth, the energy development of the 1970s resulted in a temporary stabilization of the changes in wealth and influence that had been evolving since the 1950s. Since the existing system was complex and had already incorporated the people and activities associated with energy development during previous growth periods, the changes occurring during the 1970s were limited. Long-term residence and participation in the local political process was still a prerequisite for political influence at the end of the study period. Leadership continued to be shared between Anglos and Hispanics, and the relative economic and social standing of the various cultural groups did not appear to have been significantly affected by the energy growth activities (although they temporarily altered the access of Native Americans and land grant residents to high-paying jobs and royalties).

9.4.3 Outside Linkages

The pattern of linkages to outside organizations remained uneven throughout the study period. Grants had, and maintained, excellent con-

tacts at the state level (a very senior senator and legislator were members of the community). These contacts were instrumental in:

- 1) Making the problems facing rapid growth communities more salient to state government and state officials,
- 2) Creating and administering the Community Assistance Council, from which Grants received substantial monetary aid, and
- 3) Forming Cibola County, with Grants as the county seat.

The linkage between Grants and the government of Valencia County had traditionally been somewhat distant and antagonistic. The formation of the new county was expected to result in increased political linkages and to heighten local autonomy.

Grants was also reported to have had only limited ties with the regional council of governments (COG). Since this organization served as an intermediary for many governmental programs, the lack of an effective linkage between Grants and the COG and the relative inactivity of the COG itself reduced Grants's access to programs and resources. This did not change over the study period.

From the initial development period in the 1950s, there was a consistent trend for energy development activities to be undertaken by ever larger corporations. By the 1970s, the array of multinational firms operating in the Grants area was much greater than for most communities of its size. However, because of the common resource-based nature of the growth, these linkages did not result in substantial diversification and only temporarily served to draw resources into the community. When uranium mining became uneconomic, the large corporations proved no more able to counteract national forces than had the earlier small-owner companies. Many of the national firms withdrew from activity in the Grants area quite precipitously, leaving few long-term changes in the economic diversity or linkages in the area.

The presence of the large corporations and the mining jobs did increase local awareness of national issues and served to reduce the

isolation of the community. It was not known how long this would last once mining activity had ceased.

9.4.4 Integration (Coordination and Cooperation)

Overall, Grants exhibited a relatively high degree of coordination and cooperation, given the potential for dissent created by its multi-ethnic composition and the quantity of resources flowing through the communities. The established political procedures promoted the emergence of leaders who were skilled in, and accustomed to, dealing with conflicts, developing a long-term perspective, and negotiating compromises. This pattern persisted throughout the study period, with the result that no clear, outstanding community or group positions were taken relative to energy development. Major conflicts regarding energy development and community response were generally avoided.

Although there was often lively debate, community leaders appear to have acted from an overall basis of cooperation. The major community conflict identified during the study period involved the administration of the police department and centered around a racial issue. Nevertheless, despite the emergence of this highly volatile issue, community leaders managed to hold the community together and contain the issue within established political bounds (the problem was unrelated to energy development).

Little change was observed in community cooperation and coordination as a result of energy development and growth. The greatest stresses may have occurred during the bust period, when resources and opportunities were being reduced rather than expanded.

9.5 Social Well-Being in Grants

Interpretation of county-wide data pertaining to well-being is difficult because of the presence of other major population centers, notably Los Lunas and Belen (which had 1980 populations of 19,131 and 11,582 respectively, compared to 24,435 in the Grants Census Division

and 11,451 in the city of Grants), and the presence of large populations of Native Americans and land grant residents that exhibited distinctive economic, demographic, and behavioral characteristics.

9.5.1 Access to Resources

Per capita income in Valencia County remained below both state and national levels throughout the study period. In 1970, per capita income in the county was 75.7 percent of the state level and 59.2 percent of the national level. By 1979, the county's per capita income had risen to 90.4 percent of the state and 77.7 percent of the national level. This was at least partially due to the expansion of employment opportunities for Native Americans and land grant residents due to energy development and the overall increase in the proportion of high-paying mining employment in the county's economy.

According to a community survey with a sample base of 514 conducted in Grants and Milan in about 1978, family income was high: 7.1 percent of the households had an annual income of less than \$8,000, 63.9 percent had an income of between \$12,000 and \$30,000, and 12.4 percent had an income over \$30,000 (Western Valencia County n.d.).

Access to housing for newcomers was limited; 39.7 percent of the respondents in the survey (living in at least semipermanent housing) had required more than one month to find their housing.

During the 1970-79 period, investment capital, tax revenues (particularly sales tax revenues), and job opportunities increased dramatically in western Valencia County. The selection of goods and services expanded, as did the overall purchasing power of the community residents. Some improvements were made in public facilities, especially roads, although generally Grants residents reported that service levels remained only adequate.

By the beginning of the study period, Grants had a diversified public service sector, providing support services to community and area

residents. Little change in the availability of such services was noted over the study period.

9.5.2 Behaviors

Overall, community residents noted little change in personal relationships and public behaviors during the study period. Most felt this was primarily due to the community's previous experience with development and the presence of a population with similar occupational and cultural characteristics over the last several decades.

Uranium mining was generally characterized as a high-stress, physical occupation. Work-site restrictions on behavior during the work period necessitated by the dangers inherent in mining were thought to increase the incidence of heavy drinking (and drunken driving) and family problems among underground miners. A high proportion of Grants residents were working shifts (43.8 percent of the workers interviewed in the survey), which was felt to contribute to worker and family stress and to affect a worker's ability and interest in participating in community activities.

Law enforcement personnel noted that the prevalence of youth gangs and group conflict decreased between 1970 and 1980, resulting in a general improvement in the community's sense of public safety over this period. Throughout the rapid growth period, however, problems with drunken driving, fights, bad check writing, and burglary were noted. These increases were not attributed to any particular group. An increase in personal conflicts and theft was noted during the bust period. Excessive drinking and drug abuse (and trafficking) were long-term social problems that continued through the study period.

Child neglect and abuse were generally perceived to have increased over the study period, as well as conflicts between spouses. Mental health workers felt that these adverse effects were most extreme for those Native Americans and land grant residents who were experiencing genuine conflict between traditional and current lifestyles.

9.5.3 Perceptions of Community Well-being

Residents of Grants, both newcomers and longtime residents alike, considered the boom-bust cycles detrimental to community and personal well-being, but most also viewed them with resignation as an inherent characteristic of the area's economy. Prevailing (and remaining in the community) through a bust cycle was considered a sign of "survivorship." This had taken on a positive connotation which had been incorporated as part of definition of community residents. The comradeship that was generated by overcoming adversity was generally described as contributing to community cohesion.

The relationship among different cultural groups in Grants was already complex at the beginning of the study period, and little change due to energy development was noted. Many residents valued this multicultural aspect and considered it one of the benefits of life in Grants. Newcomers from outside New Mexico reported difficulty understanding and feeling comfortable with the multiethnic society. Newcomers also reported feeling that they had little access to decision-makers and political power.

Compared to other energy-impacted communities such as Wheatland and Douglas, Wyoming, or Colstrip, Montana, Grants did not emanate an aura of prosperity in the public sector even during the latter part of the high employment/activity period (in 1978-79).

Despite the fact that Grants was exposed to few situations over the study period that were entirely new, there is no question that large-scale energy development was significant to community members. Residents tended to define the community in terms of energy development ("the Uranium Capital of the World"). The disruptions and sense of chaos created by the rapid influx of population, the economic importance of the energy companies and the miners, and the persistent overtone of uncertainty about future conditions were important parameters to perceptions of life in Grants.

9.6 Summary of Major Findings

- 1) Grants's response to and evaluation of the rapid growth caused by energy development during the 1970s was strongly tempered by its experience with previous boom-bust cycles.
- 2) The community's access to state government was greatly enhanced by the presence of two senior and powerful local political representatives. This not only resulted in an increased flow of resources to the community, it also was instrumental in (1) the formation of a new county (of which Grants was designated the county seat), a change that was viewed as substantially increasing local political control and representation in state politics, and (2) in the passage of legislation that increased state aid to energy-impacted communities throughout New Mexico. The initiative for these changes came primarily from the political representatives, not from the community.
- 3) Due to past energy development, the community was already socially diverse, and interaction among residents was no longer informal and personal. Therefore, most residents considered the important changes resulting from the energy development activity of the 1970s to have been in amenities (housing, availability of services), in economic status, or in occupational characteristics rather than in the nature of the community's social organization.

APPENDIX A: EXAMPLE INTERVIEW GUIDE

APPENDIX A
Example Interview Guide

A.1 Agency Interviews

A.1.1 Interviews with Service Agencies

(school, social services-welfare, law enforcement, public health, mental health, judge if possible)

A.1.1.1 Schools

- 1) Introduce yourself and explain purpose -- want to know how community addressed each of the needs that occurred during period of rapid growth (or last five years).
- 2) Review population data and causes of growth.
- 3) Review school data (have copy ready for them)
Make any corrections/additions or comments. If data not available locally, find out where it would be.
- 4) How has demand changed? Why? (esp. energy growth)
- 5) Has classroom space been adequate and available when needed to meet demand? If not, when was problem period? Why was there the problem? How was it resolved?
- 6) What important changes have occurred in the areas of....? Was that a problem? How were problems addressed? What are concerns for future?
 - curriculum/education approach
 - staff
 - student behavior and characteristics - probe esp. for transiency (check availability of turnover rates)
 - administrative procedures
 - any special programs for newcomers
 - any special problems created by newcomers
 - any changes due to growth
 - financing
- 7) What school-related changes or issues have there been that drew public interest or participation? (e.g., consolidation, new school construction, etc.) Point is to articulate public decision-making process. What are concerns?
 - Who, when, what, how, why. Who were the parties involved,
 - Who was not involved who logically should have been?
 - If there were factions, identify issue and probe for recurrence and for names of prime actors on both sides.
 - Was there a point when problems started being addressed in a new way? When? Why?
- 8) At the beginning of the growth period (or 10 years ago), who were the influentials in the community?
 - How has that changed? What was energy development's role? Who were key decision-makers for community during growth period?
- 9) Check for changes in extra-local linkages (source of funds, contacts, source of teachers in-service, etc.)

- 10) In their opinion, were there groups in the community that have been (or would be) affected differently by the growth and energy development?
 - Both positive and negative
 - Who, how and why (seek mechanism and understanding of change and community structure that distributes effects/opportunities)
(prompt for employment, housing, services, schools, way-of-life)
- 11) Functional groups and social differentiation:
 - try to get a description of criteria for social differentiation (in pre-growth period if there was one) and of each of the major groups (size, livelihood, geographic location, ethnicity, property ownerships, relationships between groups) How has that changed? (Criteria, groups or group characteristics). The purpose is twofold: (1) to describe structural/organization characteristics of community and (2) to identify attributes of groups that could influence distribution of project effects. Get names of group representatives. (Important for interviewing but also to illustrate familiarity with different strata.)
- 12) Demographic characteristics of respondent
 - position and history of employment
 - length of residence in community
 - where from
 - family characteristics
 - age
 - sex
 - relationship to energy development

A.1.1.2 Law Enforcement

- 1) Introduction
- 2) Review growth data
- 3) Review Part 1 and Part 2 crime and service provision
 - reported crime
 - calls for service
 - budget
 - uniformed officers and personnel
 - cars
- 4) Did crime and/or calls for service increase during growth period? What are expectations?
 - what types of crime(s)
 - who were (will be) perpetrators?
 - who were (will be) victims? Did (will) crime occur in particular neighborhoods/areas?
 - what do they think was (or will be) reason for change?
 - (Sheriff, what about specific county problems -- trespass, poaching, cattle rustling, etc. what is county people's view?)

- 5) Service provision
 - Were (will) personnel and equipment (be) adequate?
If not, when was it inadequate?
Why was it inadequate?
 - What important changes have occurred (or are anticipated) in their department?
 - staff
 - administrative procedures
 - manner of enforcement
 - source of financing
- 6) What law enforcement changes (or issues) have there been that drew public interest or participation? (e.g., new jail, consolidation of enforcement) Object is to articulate public decision-making, and to discuss sequence of response by community and leaders re: energy-related demands)
- 7) At beginning of growth period, who were the influentials? How (and when) did that change? What was role of energy development?
- 8) Check for changes in extra-local linkage.
- 9) Ask about groups and distribution of growth effects to different groups. Check especially for relationships among groups. Ask if they know representatives from each group that could be interviewed.
- 10) If appropriate, ask personal interview questions:
At least get demographic characteristics
 - position and history of employment
 - length of residence in community
 - where from
 - family characteristics
 - age
 - sex
 - relationships to energy development

A.1.1.3 Social Service/Public Assistance and Mental Health

- 1) Introduction
- 2) Review growth pattern and causes
- 3) Review agency data structure of agency
 - by type of assistance: total annual expenditures
expenditures per 1,000 population
case loads
staff levels
- 4) How has demand for service changed?
Why? Change in use patterns by long-time residents? Why?
Different use patterns by newcomers? Why? How are these reflected in the data?
- 5) Have staff and resources been adequate and available when needed to meet demand? If not, when was problem period? Why was there the problem? How was it resolved? Have they received adequate support from state?
- 6) What important changes have occurred (or are anticipated) in the areas of... What is their view on source of change? Any data?

-- child abuse and neglect

-- marital discord, spouse abuse, divorce

-- alcoholism

- 7) What public service/assistance-related changes or issues have there been that drew public interest or participation? Describe issue, when it occurred, who played what roles, what was outcome, how does that fit into overall decision-making pattern in community? Was there a point (in growth period) when decisions started being made in a new way or by different people?
- 8) Who were influentials at beginning of growth period? How has that changed? What was energy development's role? Get names of really key individuals re: community actions.
- 9) What distinguishable groups are there in the community? What are criteria for social differentiation? What are distinctive attributes of each group? How would one characterize relationships between groups? What about prior to growth? (Any particular neighborhoods?) Names of people who could discuss each group.
- 10) Have groups been affected differently by growth? Especially energy development? What about inflation? How have effects of energy development been distributed among groups? How has that occurred?
- 11) Demographic characteristics of respondent
 - position and history of employment
 - length of residence in community
 - where from
 - family characteristics
 - age
 - sex
 - relationship to energy development

A.1.2 Group Representatives/General Population

A.1.2.1 Introduction

A.1.2.2 Personal biography

- 1) Background (family, where lived)
- 2) When came to community
- 3) Educational history
- 4) Occupational history, esp. during 1970s
 - occupational mobility/immobility
 - energy-related employment
 - how did (would) they get it? entrepreneurial - ask about financing, business style and expansions
- 5) Housing - price or availability
- 6) Family history
 - family and employment history of spouse
 - school experience of children
- 7) Service provision - any problems? evaluation -- compare predevelopment with now.
- 8) What recreational/social activities available and used; compare predevelopment (or future) with now.
- 9) Who are their friends, occupation - length of residence, location - how did they become friends? Change during study period?
 - 9a) Who are their children's friends?
- 10) How were friends affected by development?
- 11) How about others in the community?
 - What other groups do they see?
 - Were any affected differently? How?
- 12) Have newcomers been accepted as part of the community?
 - Examples of interaction between longtime residents and newcomers; between various groups.
- 13) How do they feel they personally have been affected (or anticipate)?
- 14) How do they feel their neighborhood has been affected (or anticipate)?
- 15) If parents are in community, how have they been affected (or anticipate)?
- 16) What changes have occurred in the community (or anticipate)?
 - What effects have there been from energy development (or anticipate)?
 - Probe child abuse
 - change in decision-making
 - change in orientation/focus
 - sense of vitality
 - sense of community purpose
- 17) General satisfaction with expected changes
- 18) If good spokesperson for their group
 - Profile of group predevelopment
 - livelihood
 - size

- location (residential)
- property ownership
- demographic characteristics
- special needs
- inter-group relationships
- position in community and relationship with other groups
- Distribution of effects
- employment and income
- size
- demographic characteristics
- housing
- facilities/services
- decision-making
- relationship with others
- Profile now

A.1.3 Decision-maker Interviews

The purpose of these interviews is to describe the evolution of community-level response to the demands of growth. In addition to this description, the purpose is to be able to determine how pre-growth community and decision-making characteristics influenced (or will influence) the response pattern and how the modification of the decision-making process has affected (will affect) community-level decision-making both during and after rapid growth. Of particular interest is the role and utilization of legislation, especially legislation developed for impact mitigation.

1. Introduction

2. Review chronology and source of growth (complete Figure 3)
3. Rapid growth creates some major needs and changes in a community. Discuss how the community addressed some of the major ones. Ask about ones already identified, but pursue others they identify.

1) Schools

-- Building new facilities -- how did votes come out on major bond issues? Why? Were they able to raise adequate funds? What were problems?

Why did they occur?

How were they addressed? Who?

Were they solved? Will they occur again next time?

What role did state actions/legislation play in response?

-- How did response evolve over study period? How did the changes affect how things are done now? Was there a point when decisions or community response was approached in a new or different way?

2) Housing

-- How did housing response occur? How was it coordinated? What were the problems? (probe financing and zoning and legislation)

Why did they occur?

How were they addressed? Who?

Were they solved? Will they recur next time?

Role of state actions/legislation

-- How did response evolve over study period? How do the changes that occurred affect how things are done now?

3) Planning and zoning

What is history of planning and zoning?

-- How and when did formal planning and zoning get started and staffed?

-- What role did it play throughout study period?

-- What were problems? or key decisions?

- How did they occur?

- How were they addressed - by whom?

- Were they solved or will they recur?

- What role did legislative actions play?

- How did response evolve over time?

What use was made of legislation? Where did initiative come from? Was there resistance?

- 4) Public works
Discuss major decisions as above
- 5) Law enforcement
As schools
- 6) Animal control
What have they done? How and why? How successful?
- 7) Review how and when state acts designed to assist with the impacts of energy growth have been used. How important have they been? (e.g. for Wyoming: (1) sales tax (2) farm loan board (3) joint powers acts (4) industrial siting (5) severance tax)
- 8) In respondent's opinion, how much local control has (will) the community been (be) able to exercise over the important decisions and actions that affected it during growth period?
 - was prewarning adequate and accurate (information)?
 - cooperation from project sponsor? Describe how and why
 - was uncertainty about reality of development a problem? How, why?
 - been able to work with state in handling problems?
- 9) Clarify their perception of the role and importance of state involvement and of large non-local corporate involvement in the community economy/affairs who initiated? What effect now? Future?
- 10) How has (will) the political leadership and government structure in the community changed? regarding city council, county commission, county chairman of political parties?
 - Have there been any changes as a direct result of energy development?
 - Any that are particularly important to community's response or ability to respond?
 - Have companies participated? How?
 - Have (will) community leaders been (be) willing to address problems and take action? Why not, what was (will be) impediment?
 - Has (will) conflict of interest been (be) important in shaping community response, either in terms of actions taken or public trust/community support?
- 11) If business person or banker:
 - Was there (is there anticipation of) a shortage of financing for either businesses or consumers during the study period? Why? How was (will) it (be) addressed? What effect did (will) it have? Where do locals bank?
 - Has banking structure in the community changed? In what way? Why?
 - Did banking policies and practices change during the study period?
 - What role, if any, did energy companies play in banking, local (vs. nonlocal) businesses?
- 12) Demographic characteristics
 - occupation and previous employment history
 - length of residence in community
 - origin

-- family characteristics (including other relatives)

-- age

-- sex

-- relationship to energy development

13) Check to see if they feel any pertinent information has been neglected

14) Names of other people to talk to

-- influentials

-- group representatives

-- administrative leaders

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